

3.4 Biological Resources

3.4.1 Introduction

This section describes effects on biological resources that would be caused by implementation of the TRTP. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for a range of Project alternatives, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction and operation. In addition, existing laws and regulations relevant to biological resources are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the Project.

The information and analysis that is presented in this section has been derived from the *Tehachapi Renewable Transmission Project Biological Resources Specialist Report*, prepared by Aspen Environmental Group (2008). This report is hereby incorporated by reference in its entirety. While this section presents a summary of the findings of the *Biological Resources Specialist Report*, please refer to that report for more detailed information on Project effects on biological resources.

A Biological Assessment, which evaluated impacts to federally threatened, endangered, proposed, petitioned, and candidate species, is in draft form and will be in Appendix G of the Final EIS/EIR. A Biological Evaluation, evaluating impacts to Forest Service (FS) Sensitive species and FS Watch List species, is in draft form and will be in Appendix H in the Final EIS/EIR. A draft Management Indicator Species Report can be found in Appendix F. All three reports are hereby incorporated by reference into this EIS/EIR.

Scoping Issues Addressed

During the scoping period for the EIR/EIS (August-October 2007), a series of scoping meetings were conducted with the public and government agencies, and written comments were received by agencies and the public that identified issues and concerns. The following issues related to biological resources that were raised during scoping are addressed in this section:

- Possible effects of the Project on wildlife movement and special-status plants and animals in the Puente Hills Landfill Native Habitat Preservation Authority (PHLNHPA)
- Effects of the Project on sensitive resources such as Coastal Sage Scrub habitat and the California Gnatcatcher
- The WCA noted the Project has the potential to interfere with wildlife movement in the area of the proposed River Commons Project
- How would noise associated with Project construction and operation affect wildlife in preservation areas?
- Address alternative that avoids impacts to the Habitat Authority Properties and avoids sensitive areas in the Puente Hills, including the No Project/Action Alternative

Summary and Comparison of Alternatives

Table 3.4-1 on the following page presents some key factors related to biological resources for each alternative. These impacts are further described in Sections 3.4.5 through 3.4.11.

Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4 ¹	Alternative 5	Alternative 6	Alternative 7
Loss or degradation of vegetation communities	Potential projects would likely traverse the same geographic regions as either the proposed Project or Alternatives 3 through 7, and subsequently introduce similar types of impacts	1,538 acres of vegetation communities will be degraded, of which 277 acres will be permanent.	1,538* acres of vegetation communities will be degraded, of which 277* acres will be permanent.	Route A: 1,512 acres of vegetation communities will be degraded, of which 291 acres will be permanent. Route B: 1,539 acres of vegetation communities will be degraded, of which 281 acres will be permanent. Route C: 1,560 acres of vegetation communities will be degraded, of which 287 acres will be permanent. Route D: 1,549 acres of vegetation communities will be degraded, of which 290 acres will be permanent.	1,563 acres of vegetation communities will be degraded, of which 280 acres will be permanent.	1,456 acres of vegetation communities will be degraded, of which 230 acres will be permanent.	1,538** acres of vegetation communities will be degraded, of which 277** acres will be permanent.
Loss or degradation of riparian communities	Same as above.	13.4 acres of riparian communities will be degraded or impacted.	Unknown acreage of riparian communities will be degraded or impacted as final engineering has not been conducted. Will be similar to Alt. 2.	Unknown acreage of riparian communities will be degraded or impacted as final engineering has not been conducted. Will be greater than Alt. 2.	Same as Alternative 2.	12.8 acres of riparian communities will be degraded or impacted.	Unknown acreage of riparian communities will be degraded or impacted as final engineering has not been conducted. Will be greater than Alt. 2.
Number of Riparian Conservation Areas (RCAs) subject to Project disturbance	Same as above.	Vehicle access, road grading, and culvert placement would affect 171 RCAs, of which 95 would be negatively impacted.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2	Vehicle access, road grading, and culvert placement would affect 86 RCAs, of which 57 would be negatively impacted.	Same as Alternative 2
Potential to spread noxious weeds	Same as above.	Construction would result in potential spread of noxious	Same as Alternative 2	Greater land disturbance would occur in open space	Greater land disturbance would occur in open space,	Reduced number of spur roads and potential decrease in	Greater land disturbance would occur in open space

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Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4 ¹	Alternative 5	Alternative 6	Alternative 7
		weeds. 225.7 miles of access and spur roads would be constructed and improved and approximately 1,538 acres of ground disturbing activities would result as part of construction.		and riparian habitat, increasing the likelihood for spread of noxious weeds. Route A: 231.9 miles of constructed and improved roads and 1,512 acres of ground disturbing activities Route B: 228.5 miles of constructed and improved roads and 1,539 acres of ground disturbing activities Route C: 231.8 miles of constructed and improved roads and 1,560 acres of ground disturbing activities Route D: 233.2 miles of constructed and improved roads and 1,549 acres of ground disturbing activities	increasing the likelihood for spread of noxious weeds. 225.7 miles of access and spur roads would be constructed and improved and approximately 1,563 acres of ground disturbing activities would result as part of construction.	road traffic may reduce the likelihood for spread of noxious weeds. 183.2 miles of access and spur roads would be constructed and improved and approximately 1,456 acres of ground disturbing activities would result as part of construction.	and riparian habitat, increasing the likelihood for spread of noxious weeds. 225.7 miles of access and spur roads would be constructed and improved and approximately 1,538 acres of ground disturbing activities would result as part of construction.
Disturbance to common wildlife, nesting birds and raptors	Same as above.	Construction would result in disturbance to wildlife and nesting birds. For noise, 361,703 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7	For noise, 361,586 onroad vehicle trips are estimated to occur as part of construction. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result.	Greater loss of habitat would increase disturbance to wildlife and nesting birds. For noise, 340,332 (Route A), 348,691 (Route B), 357,930 (Route C), or 353,091 (Route D) onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the	Greater land disturbance would increase disturbance to wildlife and nesting birds. For noise, 418,912 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances,	A reduction in land disturbance would occur; however, helicopter use would increase disturbance to wildlife and nesting birds due to noise, rotor wash, etc. For noise, 361,697 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 42,014 helicopter trips would occur as part of	Greater land disturbance in natural areas would increase disturbance to wildlife and nesting birds. For noise, 362,861 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances,

Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4 ¹	Alternative 5	Alternative 6	Alternative 7
		miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. 172.9 miles of new transmission line would be added.	173.3 miles of new transmission line would be added.	ANF. Route A: 231.9 miles of new and upgraded roads and 1,512 acres of ground disturbing activities. 157.2 miles of new transmission line would be added Route B: 228.5 miles of new and upgraded roads and 1,539 acres of ground disturbing activities. 160.8 miles of new transmission line would be added Route C: 231.8 miles of new and upgraded roads and 1,560 acres of ground disturbing activities. 162.8 miles of new transmission line would be added Route D: 233.2 miles of new and upgraded roads and 1,549 acres of ground disturbing activities. 160.9 miles of new transmission line would be added	approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. 172.9 miles of new transmission line would be added.	construction on the ANF. For habitat disturbances, approximately 183.2 miles of new and upgraded road and 1,456 acres of ground disturbing activities would result. 172.9 miles of new transmission line would be added.	approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. 172.9 miles of new transmission line would be added.
Disturbance to threatened/ endangered and special-status plants	Same as above.	Although not observed, construction may affect listed plant species if present. Potential impacts to special-status plant species observed and potentially occurring in the Project area. 1,538 acres of land would be disturbed	Same as Alternative 2	Greater land disturbance would increase potential impacts to listed plants. Route A: 1,512 acres of land would be disturbed (291 acres permanent). Route B: 1,539 acres of land would be disturbed (281 acres	Greater land disturbance would increase potential impacts to listed plants 1,563 acres of land would be disturbed (280 acres permanent).	Reduced potential to affect listed plant species due to decreased land disturbance. 1,456 acres of land would be disturbed (228 acres permanent).	Greater land disturbance in natural areas would increase potential impacts to listed plants. 1,538 acres of land would be disturbed (277 acres permanent).

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Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4 ¹	Alternative 5	Alternative 6	Alternative 7
		(277 acres permanent)		permanent). Route C: 1,560 acres of land would be disturbed (287 acres permanent). Route D: 1,549 acres of land would be disturbed (290 acres permanent).			
Disturbance to threatened/ endangered and special-status wildlife	Same as above.	<p>Potential effects on listed species including arroyo toad, California condor, California Gnatcatcher, least Bell's vireo, and Santa Ana Sucker.</p> <p>For noise, 361,703 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result.</p> <p>172.9 miles of new transmission line would be added.</p>	<p>Same as Alternative 2</p> <p>For noise, 361,586 onroad vehicle trips are estimated to occur as part of construction. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result.</p> <p>173.3 miles of new transmission line would be added.</p>	<p>Greater land disturbance, including effects to riparian habitat and coastal sage scrub in the Chino Hills, would increase potential impacts to listed species such as least Bell's vireo and California gnatcatcher.</p> <p>For noise, 340,332 (Route A), 348,691 (Route B), 357,930 (Route C), or 353,091 (Route D) onroad vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF.</p> <p>Route A: 231.9 miles of new and upgraded roads and 1,512 acres of ground disturbing activities. 157.2 miles of new transmission</p>	<p>Same as Alternative 2</p> <p>For noise, 418,912 onroad vehicle trips are estimated to occur as part of construction of this Project.</p> <p>Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,563 acres of ground disturbing activities would result.</p> <p>172.9 miles of new transmission line would be added.</p>	<p>Decreased land disturbance may decrease effects to listed wildlife; however, use of access roads and helicopter staging areas may still affect listed species. Use of helicopters may affect California condor, if present.</p> <p>For noise, 361,697 onroad vehicle trips are estimated to occur as part of construction of this Project.</p> <p>Up to approximately 42,014 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 183.2 miles of new and upgraded road and 1,456 acres of ground disturbing activities would result.</p> <p>172.9 miles of new transmission line would</p>	<p>Greater land disturbance, including effects to riparian habitat and coastal sage scrub in the vicinity of the Whittier Narrows, would increase impacts to listed species such as least Bell's vireo and California gnatcatcher.</p> <p>For noise, 362,861 onroad vehicle trips are estimated to occur as part of construction of this Project.</p> <p>Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result.</p> <p>172.9 miles of new transmission line would</p>

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Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4¹	Alternative 5	Alternative 6	Alternative 7
				line would be added Route B: 228.5 miles of new and upgraded roads and 1,539 acres of ground disturbing activities. 160.8 miles of new transmission line would be added Route C: 231.8 miles of new and upgraded roads and 1,560 acres of ground disturbing activities. 162.8 miles of new transmission line would be added Route D: 233.2 miles of new and upgraded roads and 1,549 acres of ground disturbing activities. 160.9 miles of new transmission line would be added		be added.	be added.
Transmission line strikes and electrocutions	Potential for transmission line strikes and electrocutions of birds and bats.	Potential for transmission line strikes and electrocutions of birds and bats. 172.9 miles of new transmission line would be added.	Slightly longer transmission line route would result in slightly higher potential for line strikes and electrocutions. 173.3 miles of new transmission line would be added.	Greater length of transmission line in open space would result in slightly higher potential for line strikes and electrocutions. 157.2 (Route A), 160.8 (Route B), 162.8 (Route C), 160.9 (Route D) miles of new transmission line would be added.	Underground portion of transmission line in Chino Hills would result in lower potential for line strikes and electrocutions. 172.9 miles of new transmission line would be added.	Same as Alternative 2	Greater length of 66-kV line in open space would result in slightly higher potential for line strikes and electrocution; however, underground portions would reduce potential for line strikes and electrocution. 172.9 miles of new transmission line would be added.
Interference with wildlife movement	Potential projects would likely traverse the same geographic regions as either the proposed Project or	For noise, 361,703 onroad vehicle trips are estimated to occur as part of construction of this Project. Up to	For noise, 361,586 onroad vehicle trips are estimated to occur as part of construction. Up to approximately 9,339	For noise, 340,332 (Route A), 348,691 (Route B), 357,930 (Route C), or 353,091 (Route D) onroad	For noise, 418,912 onroad vehicle trips are estimated to occur as part of construction of this Project.	For noise, 361,697 onroad vehicle trips are estimated to occur as part of construction of this Project.	For noise, 362,861 onroad vehicle trips are estimated to occur as part of construction of this Project.

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	<p>Alternatives 3 through 7, and subsequently introduce similar types of impacts</p>	<p>approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. Activities would occur during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.</p>	<p>helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. Activities would occur during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.</p>	<p>vehicle trips are estimated to occur as part of construction of this Project. Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF.</p> <p>Route A: 231.9 miles of new and upgraded roads and 1,512 acres of ground disturbing activities. 157.2 miles of new transmission line would be added</p> <p>Route B: 228.5 miles of new and upgraded roads and 1,539 acres of ground disturbing activities. 160.8 miles of new transmission line would be added</p> <p>Route C: 231.8 miles of new and upgraded roads and 1,560 acres of ground disturbing activities. 162.8 miles of new transmission line would be added</p> <p>Route D: 233.2 miles of new and upgraded roads and 1,549 acres of ground disturbing activities. 160.9 miles of new transmission line would be added</p> <p>Activities would occur</p>	<p>Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. Activities would occur during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.</p>	<p>Up to approximately 42,014 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 183.2 miles of new and upgraded road and 1,456 acres of ground disturbing activities would result. Activities would occur during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.</p>	<p>Up to approximately 9,339 helicopter trips would occur as part of construction on the ANF. For habitat disturbances, approximately 225.7 miles of new and upgraded road and 1,538 acres of ground disturbing activities would result. Activities would occur during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.</p>

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Environmental Issues / Impacts	Alternative 1 (No Project/Action)	Alternative 2 (SCE's Proposed Project)	Alternative 3	Alternative 4 ¹	Alternative 5	Alternative 6	Alternative 7
				during any hours of the day or potentially the night, thus impacts with vehicles or deterrents to wildlife movement would occur.			

* Land disturbance under Alternative 3 would decrease by a factor of one structure within Segment 4. As such, the acres disturbed would continue to be almost identical to Alternative 2.

** Alternative 7 would have some additional temporary disturbance associated with underground construction of the 66-kV subtransmission lines in Segment 7 through the Duck Farm Project area and due to the overhead re-routing the 66-kV line around the Whittier Narrows Recreation area in Segments 7 and 8A. New access and spur roads may also be required for the new approximately 1,200 foot ROW for the San Gabriel River crossing within Segment 8A associated with the Whittier Narrows Overhead Re-Route.

3.4.2 Affected Environment

The Affected Environment section provides a detailed description of the baseline biological conditions of the proposed Project from southeastern Kern County to the Los Angeles Basin (Figure 2.1-1). The regional setting (Section 3.4.2.2) and local setting (Section 3.4.2.3) for the proposed Project is provided below. Vegetation types within the proposed Project are described for the purpose of characterizing the botanical resources and wildlife habitat values. Biotic habitats suitable for the occurrence of plant and wildlife species of special status (State- and federally listed threatened and endangered species, federal candidate species, California Native Plant Society List species, California Species of Special Concern, and FS Sensitive species) are also described. Sections 3.4.2.4 through 3.4.2.8 discuss the setting for each proposed Project alternative. Management Indicator Species are discussed in Section 3.4.2.3.2.

Information for this Project was collected from already existing reports, books and manuals, as well as field collection of new data specific to the Project. Details can be found in the *Biological Resources Specialist Report* (Aspen, 2008). A complete list of species evaluated is found in the *Biological Resources Specialist Report*. Of the 625 species evaluated, 182 are considered within or near the Project area.

3.4.2.1 Baseline Data Collection Methodology

The *Biological Resources Specialist Report* (Aspen, 2008) provides a summary of the methodology used to assess biological resources within the proposed Project. The approach for this process was to utilize all available data related to biological resources to the extent possible, and to independently review, verify, and supplement this data in order to compile a concise and accurate description of the baseline biological conditions.

3.4.2.2 Regional Setting

The proposed Project traverses several geographical and ecological zones. From its northernmost extent near Tehachapi, the Project passes through the City of Lancaster, the City of Palmdale, and the Antelope Valley in the western Mojave Desert, spans the Sierra Pelona and San Gabriel Mountains within the ANF, and extends through the San Gabriel Valley to the City of Ontario. Collectively, these areas contain a diversity of flora and fauna that include many rare, threatened, and endangered plants and animals, and comprise rare vegetation communities.

For purposes of this EIR/EIS, the proposed Project is evaluated regionally with location-specific discussions of habitats, and special-status plant and animal species. Due to the diversity of habitats within the proposed Project area, the Project was divided according to dominant habitat characteristics and the baseline conditions are described in relation to the following three regions:

- **Northern Region.** This region includes all portions of the proposed Project located between the Windhub Substation south of Tehachapi in southern Kern County and the northern boundary of the ANF, located in northern Los Angeles County. This region includes Segments 4, 5, and 10, northern portions of 6 and 11, substation construction (Whirlwind), and substation improvements (Antelope and Vincent).
- **Central Region.** This region includes all portions of the proposed Project located in the ANF, including Segment 6 and the majority of Segment 11.
- **Southern Region.** This region includes all portions of the proposed Project located south of the ANF within Los Angeles County and San Bernardino County. This region includes Segments 7 and 8, southern portions of Segment 11, and all associated substation improvements (Gould, Mesa, and Mira Loma).

3.4.2.2.1 Northern Region

The Northern Region of the proposed Project includes Segments 4, 5, 10, and the northernmost portions of 6 and 11 (Figure 3.4-1 at the end of Section 3.4). These Tehachapi Foothills and Western Antelope Valley segments commence at the west end of the Mojave Desert, where the tip of the Antelope Valley rises west towards Tejon Pass at an elevation of approximately 3,100 feet. The composition of the vegetation in this area is strongly influenced by the geography and geology of the region.

Landform processes, such as uplift, bedrock decomposition, erosion-deposition, and alluvium stratification, have produced a semicircular fan along the western edges of the Antelope Valley. Some of the soil formations provide low competition habitats for a rich assemblage of native annual plant species. These specialized plant habitats include some of California's most colorful wildflower displays.

The general region is botanically diverse, wedged between the desert, the Sierra Nevada, the Great Central Valley, and the Transverse Ranges. Though varied floristic influences exist in the Valley, this area has been subject to repeated disturbance from historic land uses such as farming, grazing, and infrastructure development. Low-lying areas may support stream crossings and wetlands, particularly in the vicinity of the San Andreas Fault Zone, where groundwater-associated marshes and ponds are relatively common.

This area is located within the juncture of different ecological regions: the Northern Great Basin, Transverse and Coast Ranges, West Mojave and Sonoran deserts, Tehachapi Mountains, Sierra Nevada, and Great Central Valley, and supports a variety of native and introduced plants and wildlife.

The western section of the region contains large areas of disturbed annual grasslands dominated by non-native grasses and forbs and is important as raptor foraging and wintering habitat. Near the eastern edge of the region the area supports more xeric species including Mohave ground squirrel. Some of the listed species that either have been observed or may occur in the Project area include least Bell's vireo, Swainson's hawk, Mohave ground squirrel, California red-legged frog, and rare plants such as San Fernando Valley spineflower, alkali Mariposa lily, and short-joint beavertail cactus.

3.4.2.2.2 Central Region

The Central Region of the proposed Project consists of the ANF within the San Gabriel Mountains and includes Segment 6 and most of Segment 11 (Figure 3.4-2 at the end of Section 3.4). Segments 6 and 11 cross rugged portions of the ANF. The San Gabriel Mountains are part of the Transverse Ranges, which lie on an east-west axis. These mountains are characterized by steep, rugged terrain and deep canyons, as well as numerous creeks, streams, and rivers. The ANF extends across most of the San Gabriel Mountains, and constitutes a regionally rare expanse of wildland habitat.

The 2005 Forest Plan indicates the mountains and foothills of southern California are home to approximately nine native species of fish, 18 amphibians, 61 reptiles, 299 birds, 104 mammals, 2,900 vascular plants and an unknown number of species of invertebrate animals and non-vascular plants. Some of these species are endemic to the ANF, and some have special status as federally listed threatened, endangered, proposed, candidate, or FS Sensitive species.

The Project alignment crosses many areas that provide suitable habitat for several FS Sensitive species including the Mt. Gleason Indian Paintbrush, California spotted owl, Santa Ana speckled dace, pallid bat, and San Bernardino mountain kingsnake. It is possible to find California condor, eagles, and other raptor species.

3.4.2.2.3 Southern Region

The Southern Region of the proposed Project occurs in the Los Angeles Basin and includes Segments 7, 8, and the southernmost portion of Segment 11 (Figure 3.4-3 at the end of Section 3.4). Ongoing urbanization and residential housing development continue to be the dominant feature for much of this area. However, the proposed transmission alignment would parallel or cross several major biological features including the San Gabriel River, the Whittier Hills open space, Puente Hills Landfill Native Habitat Preservation Authority, and other portions of the Puente and Chino Hills.

These areas have become increasingly important to wildlife as they provide large areas of habitat within an urban setting. In addition, these areas provide movement corridors between the Chino Hills and the Cleveland National Forest. One important species documented in these areas is the federally listed California gnatcatcher. In addition, the Puente-Chino Hills Wildlife Corridor supports over 100 different species including deer, coyotes, foxes, bobcats, hawks, and owls. Vegetation in this area is dominated by coastal sage scrub, California walnut woodlands, sycamore and oak forests, freshwater marsh, and non-native grasslands.

Much of Segment 8 is located along the spine of the Chino Hills. This area supports both highly urbanized areas and large sections of wild lands, such as Tonner and Carbon Canyons. Residential communities in some locations directly abut the existing utility corridor. Broad areas within the Chino Valley support activities including dairy farming, industrial, and residential. Portions of this area remain as a link for wildlife movement from the Cleveland National Forest and the Prado River basin. The diversity and productivity of the Santa Ana River riparian system and adjacent upland habitat provide opportunities for a variety of wildlife species, many of which are dependent on these ecosystems for some or all of their habitat requirements. Riparian and upland habitats provide a variety of foraging, nesting, and cover opportunities, as well as water resources, for a variety of wildlife species that occur both within the riparian habitat as well as adjacent upland habitats.

Wildlife corridors provide a variety of functions and can include habitat linkages between natural areas; provide greenbelts and refuge systems; and divert wildlife across permanent physical barriers to dispersal such as highways and dams by roadway underpasses and ramps. In the Chino Hills area, data indicates that fragmentation of habitat and a reduction in useable wildlife corridors can affect the population dynamics of predators including bobcat, coyote, and mountain lions (Riley et. al., 2003; Dickson et. al., 2005). The amount and distribution of suitable habitat is an essential element to consider for the management of wildlife. In fact, some species require, and are often limited to, unique vegetation types for breeding or foraging. Some of the other species that occur in this segment include Swainson's hawk, burrowing owl, least Bell's vireo, and peregrine falcon.

3.4.2.2.4 Wildlife Corridors and Special Linkages

Linkages and corridors facilitate regional animal movement and are generally centered around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Ridgelines that occur throughout the Project area may also serve as movement corridors.

Riparian corridors remain a common pathway utilized by many species because they typically provide cover, foraging opportunities, and water. For many species, such as southwestern willow flycatcher or Santa Ana sucker, this is the only habitat type that they utilize. However, as the movements of wildlife

species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or perpendicular linear movements away from a water source with little regard to the orientation of the assumed riparian “movement corridor” (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh, 1997).

In general the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- a. **Movement corridors** are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.
- b. **Dispersal corridors** are relatively narrow, linear landscape features embedded in a dissimilar matrix that links two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- c. **Habitat linkages** are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.
- d. **Travel routes** are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors within larger natural habitat areas that are used frequently by animals to facilitate movement and provide access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).
- e. **Wildlife crossings** are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).

3.4.2.3 Alternative 2: SCE’s Proposed Project

3.4.2.3.1 Northern Region

The northernmost stretch of the proposed ROW, consisting of Segment 10, is located within the southern boundary of the Tehachapi Wind Resource Area (TWRA), an area of transition between the foothills of the Tehachapi Mountains to the north and northwest and the western Mojave Desert. Much of the area is characterized by a gradually sloping alluvial plateau crossed by numerous desert washes, with several

rocky hillocks scattered along the plain. Mining operations, grazing, OHV use, camping, hunting, and scattered development, including wind farms, all occur in the general area.

As Segment 10 trends in a southwest direction, it traverses an area dominated by open space desert habitat with scattered and isolated rural residential properties. A large cement production facility is located just northwest of the proposed ROW in this area. Several existing dirt access roads comprise a patchwork mosaic throughout the area, some better maintained than others. Much of this segment parallels the Los Angeles aqueduct, which lies underneath Aqueduct Road, a moderately maintained paved road. Segment 10 continues northwest where it traverses Cottonwood Creek and ultimately intercepts Segment 4 at the proposed Whirlwind Substation site.

At this point, Segment 4 travels southeast and crosses the county line between Kern and Los Angeles Counties at West Avenue A. This area also lies within the alluvial plateau located at the foothills of the Tehachapi Mountains to the northwest. However, as Segment 4 continues southeast and into Los Angeles County, the landscape transitions to an area dominated by agricultural fields, many of which appear fallow, and rural development. Roads in this area consist of a fairly even distribution of dirt access roads and those that are paved and relatively well-maintained. As the segment traverses this area and spans the western Antelope Buttes, the Antelope Valley California Poppy Reserve occurs approximately one mile to the west. Beyond this point, portions of Segment 4 enter the western outskirts of the City of Lancaster as it terminates at the existing Antelope Substation.

From the Antelope Substation, Segment 5 continues towards the southeast and traverses an area of similar open space, agricultural fields, and rural development as it crosses through western Lancaster and the City of Palmdale. At approximately 4 miles southeast of the Antelope Substation, Segment 5 intersects the California Aqueduct and transitions from relatively flat topography to the Portal Ridge and Ritter Ridge foothills, which are characterized by gently rolling to moderately steep slopes dominated by sparse vegetation. Due to the rugged terrain throughout much of this area, access roads are limited and situated some distance from the ROW at some locations. However, given the proximity to urban development, many of these are well-maintained and routinely traveled. Several small single-family residential communities occur on each side of the proposed ROW throughout this area. Segment 5 terminates at the existing Vincent Substation, just south of where it intersects Highway 14 in the Soledad Pass.

The portions of Segments 6 and 11 that are north of the ANF boundary traverse areas similar to the southern portions of Segment 5.

Vegetation

The most common vegetation type in the Northern Region of the proposed Project is Mojave Creosote Brush Scrub (Table 3.4-2). Large areas of this habitat type are extremely disturbed, being grazed yearly by large herds of sheep (*Ovis aries*). Disturbed California Annual Grassland is the second most common vegetation type in the region, especially south of Rosamond Boulevard in the southern Antelope Valley. These areas of grassland also support wildflower fields with spectacular displays of color during good rainfall years (observed during the 2008 spring wildflower bloom). These grasslands were previously fallow agricultural fields dominated primarily by cheat grass (*Bromus tectorum*) and other non-native grasses and occasionally interspersed with rubber rabbit brush (*Chrysothamnus nauseosus*). The third most abundant vegetation type is Mojave Juniper Woodland and Scrub, especially in the Leona Valley west of the city of Palmdale. Other relatively common vegetation types within the region include Mojave Mixed Woody Scrub, Desert Bunchgrass Mix, and Desert Saltbush Scrub in the Antelope Valley, and Mixed Chaparral in the foothills of the San Gabriel Mountains. Disturbed areas in this region are often

dominated by non-native species, although, in other cases, rubber rabbitbrush, (a native, primary succession species) dominates disturbed areas.

State-protected habitats that occur in the Northern Region include Southern Cottonwood Willow Riparian Forest (along Amargosa Creek), Joshua Tree Woodland, and Desert Wash. The USGS National Wetland Inventory (NWI) maps depict numerous, small (0.3 to 1.0 acre) inland marshes and wetlands that may be temporarily flooded, particularly within the northern portion of the Northern Region.

Common Wildlife

Common wildlife species occurring throughout the Northern Region are indicative of the high desert environments and agricultural centers of southern California. These species are typically well-adapted to the arid conditions that define this portion of the Project alignment or are generalists, capable of exploiting a broad spectrum of habitats. Species observed during surveys in the Northern Region include a variety of birds, such as common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), northern mockingbird (*Mimus polyglottos*), ash-throated flycatcher (*Myiarchus cinerascens*), and California quail (*Callipepla californica*). Other bird species that are likely to occur include western scrub jay (*Aphelocoma californica*), American kestrel (*Falco sparverius*), house finch (*Carpodacus mexicanus*), and killdeer (*Charadrius vociferus*). Mammal species that were observed during surveys include bobcat (*Lynx rufus*), black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), and desert cottontail (*Sylvilagus audubonii*). Common mammal species that would be expected to occur in the Northern Region include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), round-tailed ground squirrel (*Spermophilus tereticaudus*), and striped skunk (*Mephitis mephitis*). The Northern Region provides excellent habitat for a variety of reptiles. Reptile species observed during surveys or expected to occur include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), desert spiny lizard (*S. magister*), desert iguana (*Dipsosaurus dorsalis*), and western rattlesnake (*Crotalus viridis*). Chuckwalla (*Sauromalus ater*), red racer (*Coluber constrictor*), common kingsnake (*Lampropeltis getula*), gopher snake (*Pituophis catenifer*), and western whiptail lizard (*Aspidoscelis tigris*) are also commonly found in the Northern Region. A complete list of wildlife species observed during surveys conducted in the entire Project area is included as Appendix K of the *Biological Resources Specialist Report* (Aspen, 2008).

Vegetation Types

Eighteen vegetation types were mapped within the Northern Region of the proposed Project alignment. Table 3.4-2 lists these habitat types including acres and percentage of total acreage within the proposed Project. Full descriptions of each of these vegetation types are provided in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008) and vegetation maps are provided (Figure 3.4-4 located in the Map & Figure Series Volume).

Habitat Type	Acres	Percentage of Total Acreage
Mojave Creosote Bush Scrub	2792.50	30.67%
California Annual Grassland	1968.30	21.62%
Mojave Juniper Woodland and Scrub	1066.45	11.71%
Barren/Developed	700.24	7.69%
Agriculture	556.59	6.11%
Rabbitbrush Scrub	407.93	4.48%
Mojave Mixed Woody Scrub	349.58	3.84%
Desert Bunchgrass Grassland	324.93	3.57%

Table 3.4-2. Vegetation Types Occurring in the Northern Region

Habitat Type	Acres	Percentage of Total Acreage
Desert Saltbush Scrub	291.65	3.20%
Desert Wash	260.00	2.86%
Mixed Chaparral	192.09	2.11%
Joshua Tree Woodland	142.02	1.56%
Big Sagebrush Scrub	26.39	0.29%
Mojave Pinyon Woodland	15.44	0.17%
Southern Cottonwood Willow Riparian Forest	5.99	0.07%
Ruderal Grassland	3.65	0.04%
Deerweed/Chia Herbaceous Field, Recently Burned	1.69	0.02%
Mojavean Pinyon and Juniper Woodland, Recently Burned	0.23	0.00%
Total	9105.67	100.00%

Special-status Species

Special-Status Plant Species

Thirteen special-status plant species have the potential to occur within the Northern Region of the proposed Project. Table 3.4-6 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of these species. Detailed accounts for these species are provided in Appendix E of the *Biological Resources Specialist Report* (Aspen, 2008).

Special-Status Wildlife Species

Twenty-eight special-status wildlife species have the potential to occur within the Northern Region of the proposed Project. Table 3.4-7 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of these species. Detailed accounts for these species are provided in Appendix J of the *Biological Resources Specialist Report* (Aspen, 2008).

Wildlife Movement

The Northern Region is located within an area that supports the confluence of four major ecoregions, including the Great Central Valley, just across the Tehachapi Mountains to the northwest; the Sierra Nevada to the north, of which the Tehachapi Mountains represent the southernmost reach; the expansive Mojave Desert to the east; and the South Coast region to the south and southwest. Vegetation communities are quite unique where ecoregions meet; for instance, Joshua tree woodlands intermix with oak, juniper, and pine in a transition zone on the Mojave side of the mountains (Penrod, et al., 2003). Some of the important linkage and movement corridors that have been identified in the general region include the Tehachapi Connection (Penrod, et al., 2003), the Antelope Valley (County of Los Angeles, 2008), and the San Andreas Rift Zone Special Ecological Area (County of Los Angeles, 2008).

Just north of the Project area, the Tehachapi Mountains provide an important linkage for a variety of wildlife species, although some may not occur at the Project site, between the southern Sierra Nevada and the mountainous regions of the Los Padres and Angeles National Forests. In fact, the Tehachapi Mountains represent the sole continuous block of habitat in the region connecting these vital areas. Due to the functional value of this area as a wildlife movement corridor, it has been included as a key component (Tehachapi Connection) of the South Coast Missing Linkages Project (SCMLP). The SCMLP is a collaborative effort among federal and State agencies and non-governmental organizations to identify

and conserve landscape-level habitat linkages in order to protect essential biological and ecological processes in the South Coast Ecoregion. This project is led by South Coast Wildlands (SCW), a non-profit organization that works with regional ecologists, regulatory agencies, land managers and planners, and other conservation organizations to develop and implement a regional conservation strategy. To date, the SCMLP has identified 15 landscape linkages that are considered irreplaceable and imminently threatened. The Tehachapi Connection is one of these 15 priority linkages, whose protection is crucial to maintaining ecological and evolutionary processes (SCW, 2008). Some of the key species known to utilize this linkage include mule deer, mountain lion, California spotted owl, and Tehachapi pocket mouse (Penrod et. al., 2003). Although the linkage design (as defined by the SCMLP) for the Tehachapi Connection lies to the north of the Project area, many of the same habitats and water bodies transition from the linkage design area into the Project area.

According to the ANF Land Management Plan, impediments to wildlife movement in the region include urban development, Sierra Highway, and State Highway 14, which is by far the greatest barrier for movement between the San Gabriel Mountains, south of State Highway 14, and the Santa Susana Mountains to the north. The national forest is active in regional planning efforts to establish a wildlife linkage connecting these vital areas.

As the Antelope Valley extends northeast from the boundary of the ANF towards Edwards Air Force Base, various geographical features provide major habitat linkage opportunities and movement corridors for a variety of wildlife species. Beneficiaries of these features particularly include wide-ranging species and ecological generalists, such as coyote, gray fox, raccoon, and bobcat, which have the ability to move across vast expanses of open space and exploit a diversity of habitats. For such species, areas that provide adequate qualities for wide-ranging movements serve as an important component of long-term genetic exchange. For smaller, less mobile species, such as burrowing owl and Mohave ground squirrel, linkages within the Antelope Valley can facilitate movement during seasonal or population dispersal.

The San Andreas Rift Zone has been proposed as a Special Ecological Area (SEA) by the County of Los Angeles (County of Los Angeles, 2008) due to its diverse assemblage of vegetation types that result from the unique location and large variation of elevation and topography through the area. This SEA is located in the western portion of the Antelope Valley and includes a small portion of the western Tehachapi foothills before extending southeast towards large portions of Portal Ridge and the Leona Valley, including Amargosa Creek and a majority of its watershed. The San Andreas Rift Zone SEA includes several important linkages for wildlife movement. These include the western Tehachapi foothills which may serve as an important topographic reference for migrating birds, as well as essential high elevation foraging grounds along migratory routes (County of Los Angeles, 2008). Several large drainages occur in the region as they extend to the floor of the Antelope Valley and provide important linkages for wildlife travelling between upland habitats and the valley floor. Amargosa Creek provides an essential riparian corridor, in an otherwise arid environment, linking east-west movement through the Liebre Mountains, Portal Ridge, and Ritter Ridge. The San Andreas Rift Zone SEA is utilized by a number of listed wildlife species, including California red-legged frog, mountain plover, southwestern willow flycatcher, and Mohave ground squirrel.

On a regional scale, the area surrounding the Northern Region supports a variety of important habitat linkages and wildlife movement corridors, including the Tehachapi Connection, the Antelope Valley, and the San Andreas Rift Zone SEA. The Project site, however, occurs outside of any designated or arbitrary boundaries for important wildlife corridors and linkages that have been defined in the region. Furthermore, the proposed alignment traverses several barriers that are known to impede wildlife

movement, including paved roadways such as Highways 14 and 58, the Los Angeles and California Aqueducts, and expansive agricultural fields.

3.4.2.3.2 Central Region

The Central Region is comprised of the portions of Segments 6 and 11 that traverse the ANF in a generally north-south direction. These segments cross the northern boundary of the ANF in an area characterized by relatively arid conditions and landscapes due to the rain-shadow effect of the San Gabriel Mountains. As each segment extends south towards the mountainous regions of the ANF, they traverse areas dominated by steep topography and span a diverse assemblage of native vegetation communities and a complex network of existing forest and non-forest access roads. Additionally, several USGS blue-line streams and their tributaries are intersected by the existing ROW and access roads.

Segment 6 enters the ANF in a generally northwest direction through the area of Kentucky Springs. From this point, much of Segment 6 roughly parallels Angeles Forest Highway as it rises in elevation along the northern slopes of the ANF. The first significant rise along the ROW occurs at the ridgeline that comprises the northern flank of Aliso Canyon. A few scattered, private in-holdings occur along this portion of the segment, including Wagonwheel Ranch and Gold Queen Mine. Some of the major features occurring in this area include paved roads, such as Aliso Canyon and Mount Gleason Road, and Aliso Spring and Mill Creek Summit picnic grounds. Access through this northern portion of Segment 6 would primarily occur along FS Road 4N41, which generally follows the existing ROW to its termination at Gold Queen Mine. From this location, the ROW trends towards the southeast, still roughly paralleling Angeles Forest Highway. Access from this point would generally occur along FS Road 4N18. Mill Creek, an intermittent drainage through this area, is located between Angeles Forest Highway and FS Road 4N18 and crosses 4N18 in a few locations. As the segment travels farther south along 4N18, it traverses Rabbit Peak and intersects Monte Cristo Creek, another intermittent drainage. Several mines occur in the area just south of Monte Cristo Creek, including Black Crow, Gold Bar, and Black Cargo. From this area, Segment 6 trends to the southeast as it diverts from Angeles Forest Highway and enters Upper Big Tujunga Canyon. As this portion of the segment parallels Upper Big Tujunga Road, it intersects Big Tujunga and Alder Creeks and several respective tributaries. Access in this area would be limited to Upper Big Tujunga Road, FS Road 3N20, and an unnamed FS road out of Shortcut Fire Station. The segment spans Angeles Crest Highway just east of its junction with Upper Big Tujunga Road. Beyond this point, the segment continues southeast and lies adjacent to the San Gabriel Wilderness Area, which is located just to the east. FS Roads 2N23 and 2N24 would provide access to locations along this portion of Segment 6. FS Road 2N24 initiates at Red Box picnic grounds, approximately two miles west of the ROW, and heads east as it parallels and crosses the West Fork San Gabriel River and several minor tributaries until it passes through West Fork campground. However, this portion of the road would not be used as a construction access route. At this point, the road diverts towards the south as it travels through the Newcomb Pass area and eventually intersects the ROW near the junction with 2N23, which would be the primary access route to this portion of the segment. From this location, 2N24 follows the ROW through several canyons that lie just south of Cogswell Reservoir, including Tumbler Canyon, Glen Canyon, and Butterfield Canyon. Just northeast of Monrovia Peak, access would occur along FS Roads 2N30 and 1N36, with each of these leading to the southern boundary of the ANF. Access would also occur along the Cogswell Reservoir access road (2N25.1) and FS Road 2N25.2, which intersects FS Road 2N24.

Segment 11 crosses the northern boundary of the ANF in a south-southwest direction, approximately one mile west of Segment 6. Access in this area would occur along FS Road 4N24 as it generally follows the

ROW. North of Aliso Canyon, the ROW and 4N24 traverse an area dominated by recently burned herbaceous fields. A few minor washes cross 4N24 in this area, but appear to support only occasional seasonal flows. Upon reaching Aliso Canyon Road, the ROW intersects a large private in-holding at Beartrap Canyon that includes the Niles and Montgomery Ranches. The ROW extends further south along the ridgeline between Gleason and Beartrap Canyons and eventually crosses Big Buck campground and the Pacific Crest Trail, just north of Mount Gleason Road. FS Road 4N24 terminates at Mount Gleason Road. South of Mount Gleason Road, access would occur along FS Road 3N27 as it generally follows the ROW to Big Tujunga Creek. At this point, the road has been washed out and is no longer passable by vehicles. This general area is characterized by relatively steep, north-facing slopes dominated by chaparral communities. Several blue-line drainages occur throughout this portion of the segment and cross 3N27, including North Fork Mill Creek, Fall Creek, and Big Tujunga Creek. As the ROW approaches Big Tujunga Canyon Road, Big Tujunga Reservoir occurs just to the west. Beyond Big Tujunga Road, the ROW intersects Angeles Forest Highway and Angeles Crest Highway to the south, respectively. Due to steep topography, access in the area between Big Tujunga Canyon Road and Angeles Crest Highway is extremely limited. As the ROW spans this area, it crosses Clear Creek and then dramatically rises in elevation just west of Hoyt Mountain. Access is available just north of Angeles Crest Highway along FS Road 2N79. Elevations begin to descend south of Angeles Crest Highway and access would occur along FS Road 2N75 and 2N76. In this area the ROW parallels the western forest boundary between forest land and portions of unincorporated Los Angeles County, just north of the City of La Cañada Flintridge. Upon connecting to the Gould Substation, the ROW extends to the east and traverses a series of canyons along the southern boundary of the ANF, including Fern Canyon, Prieto Canyon, Millard Canyon, and Rubio Canyon. Throughout this area, the ROW crosses stretches of private in-holdings interspersed within the ANF. This portion of the segment would be accessed through a variety of roads that initiate south of the forest boundary. Segment 11 ultimately exits the forest boundary at Eaton Canyon just north of Altadena.

Helicopter Construction on the Angeles National Forest

Approximately 33 towers would be constructed by helicopter on the ANF. SCE has identified 12 helicopter staging areas that would be necessary to support helicopter construction activities (Figure 2.2-83). These sites average approximately four acres in size and are described in detail in the *TRTP Biological Resources Specialist Report* (Aspen, 2008). Improvements at each of the staging and landing areas would be required and would include clearing of vegetation, and potential grading and cut and fill activities. The removal of pine trees of various age classes would be necessary in order to facilitate helicopter operations at several of the sites.

Vegetation

The majority of the proposed Project in the Central Region consists of Mixed Chaparral (Table 3.4-4). Canyon Oak Forest and Bigcone Douglas Fir-Canyon Oak Forest are the second and third most common vegetation types in the region, respectively. Both of these forests are especially common on the north-facing slopes in the ANF. The next most abundant vegetation type is Chamise Chaparral, followed by two vegetation types that were recently burned (Deerweed/Chia Herbaceous Field, Recently Burned and Mojavean Pinyon and Juniper Woodland, Recently Burned). Coastal vegetation types restricted to the southern slope of the ANF include Southern Coast Live Oak Riparian Forest and Coastal Sage Scrub. On the drier northern slope, desert vegetation is more common, including Mojave Pinyon Woodland, Mojave Juniper Woodland and Scrub, Desert Wash, and Big Sagebrush Scrub. Several riparian vegetation types are located in deeper canyons along rivers or creeks: Southern Willow Scrub, Southern Sycamore Alder

Riparian Woodland, Southern Cottonwood Willow Riparian Forest, and Southern Arroyo Willow Riparian Forest. Non-native plants dominate three relatively uncommon vegetation types in the Project area: Nonnative Woodland, California Annual Grassland, and Barren/Developed. In addition, most of the access roads within the ANF, particularly near the Angeles Crest Highway and the Angeles Forest Highway, are easily accessed by off-road vehicles and support large populations of invasive plant species along the road margins.

State-protected or regulated habitats that occur in the Central Region include Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Desert Wash. Numerous blue-line drainages appear within the Central Region, including Mill Creek in the north and Big Tujunga Creek and the San Gabriel River in the south. The USGS NWI maps depict numerous, small (0.3 to 1.0) inland marshes and wetlands that may be temporarily flooded, within the Central Region.

Common Wildlife

The mountains and foothills of southern California are home to roughly 400 wildlife species, many of these occurring on the ANF. Some of these are wide-ranging mammals, including black bear (*Ursus americanus*), mountain lion (*Puma concolor*), and mule deer (*Odocoileus hemionus*). These species utilize a variety of habitats throughout the Central Region for breeding, denning, and foraging. Other mammals that occur on the ANF include coyote, gray fox, California ground squirrel (*S. beecheyi*), western gray squirrel (*Sciurus griseus*), and Botta's pocket gopher (*Thomomys bottae*). The diverse assemblage of vegetation communities on the ANF provides suitable breeding, nesting, and foraging habitat for a relatively exhaustive number of bird species, including Steller's jay (*Cyanocitta stelleri*), wrentit (*Chamaea fasciata*), mountain chickadee (*Poecile gambeli*), acorn woodpecker (*Melanerpes formicivorus*), and dark-eyed junco (*Junco hyemalis*). Red-tailed hawk, common raven, turkey vulture (*Cathartes aura*), and Cooper's hawk (*Accipiter cooperii*) are also relatively common in the Central Region. Among the reptile species commonly occurring on the ANF are side-blotched lizard, sagebrush lizard (*S.graciosus*), western fence lizard, and southern alligator lizard (*Gerrhonotus multicarinatus*). Many perennial and intermittent drainages occur on the ANF and provide suitable breeding habitat for several amphibian species, including Pacific tree frog (*Hyla regilla*), California tree frog (*H.cadaverina*), Monterey ensatina (*Ensatina eschscholzia eschscholzia*), and coast range newt (*Taricha torosa torosa*).

Management Indicator Species

Twelve Management Indicator Species (MIS) are identified in the Angeles National Forest (ANF) Land and Resource Management Plan (LRMP) (USDA, 2005). Certain species, known as MIS, are identified as "indicators" of the health and function of the forest ecosystem in response to FS management activities. Project-level effects on MIS are analyzed and disclosed as part of the environmental analysis under the National Environmental Policy Act (NEPA).

MIS that occur in the Project area include mule deer, mountain lion, arroyo toad, song sparrow, California spotted owl, bigcone Douglas fir, and Coulter pine. Table 3.4-3 describes the MIS, their associated Management Indicators (MI), and the amount of habitat directly impacted by the proposed Project and Alternative 6 for each. See the *Management Indicator Species Analysis for the Tehachapi Renewable Transmission Project* for further details and analysis of impacts to MIS in the Project area.

Table 3.4-3. Impacts to Management Indicators and Management Indicator Species for the ANF

Management Indicator (MI)	Management Indicator Species (MIS)	Acres Directly Impacted	
		Alternative 2	Alternative 6
Fragmentation	Mountain lion	272	203
Healthy Diverse Habitats	Mule deer	272	203
Aquatic Habitat	Arroyo toad	7	17
Riparian Habitat	Song Sparrow	0.7	0.07
Bigcone Douglas fir Forest	Bigcone Douglas fir	7	5
Coulter Pine Forest	Coulter pine	8	10
Montane Conifer Forest	California spotted owl	43	36

Vegetation Types

Vegetation on the ANF occurs in a mosaic of several communities that are influenced by a variety of factors, including slope aspect, soil type, precipitation, and topography.

Twenty-eight vegetation types were mapped within the Central Region of the proposed Project. Table 3.4-4 lists these habitat types including acres and percentage of total acreage within the proposed Project. Full descriptions of each of these habitats are provided in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008) and vegetation maps are provided (Figure 3.4-4 located in the Map & Figure Series Volume).

Table 3.4-4. Vegetation Types Occurring in the Central Region

Habitat Type	Acres	Percentage of Total Acreage
Mixed Chaparral	3061.15	46.51%
Barren/Developed	729.02	11.08%
Canyon Oak Forest	543.87	8.26%
Bigcone Douglas Fir-Canyon Oak Forest	511.80	7.78%
Chamise Chaparral	369.97	5.62%
Deerweed and Chia Herbaceous Field (Recently Burned)	271.35	4.12%
Mojavean Juniper and Pinyon Woodland (Recently Burned)	211.91	3.22%
Scrub Oak Chaparral	190.77	2.90%
Coulter Pine Forest	110.06	1.67%
Interior Live Oak Scrub	108.50	1.65%
Coast Live Oak Woodland	99.76	1.52%
Mojave Pinyon Woodland	62.92	0.96%
Coastal Sage Scrub	54.23	0.82%
Southern Sycamore Alder Riparian Woodland	48.46	0.74%
Southern Coast Live Oak Riparian Forest	43.79	0.67%
Mojave Juniper Woodland and Scrub	35.31	0.54%
Southern Willow Scrub	28.78	0.44%
Nonnative Woodland	18.48	0.28%
California Annual Grassland	13.14	0.20%
Southern Cottonwood Willow Riparian Forest	11.01	0.17%
California Bay Forest	10.00	0.15%
Big Sagebrush Scrub	9.98	0.15%
Desert Wash	9.17	0.14%
Recently Burned Mojavean Juniper and Pinyon Woodland	7.72	0.12%
Recently Burned, Early Successional	5.72	0.09%
Southern Arroyo Willow Riparian Forest	5.44	0.08%
Sparsely Vegetated Streambed	3.07	0.05%
Yellow Pine Forest	2.73	0.04%
Water	2.36	0.04%
Ruderal Grassland	0.88	0.01%

Habitat Type	Acres	Percentage of Total Acreage
Mule Fat Scrub	0.58	0.01%
Interior Live Oak Forest	0.02	0.00%
Total	6581.95	100.00%

Special-status Species

Special-Status Plant Species

Forty-six special-status plant species have the potential to occur within the Central Region of the proposed Project. Table 3.4-6 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of special-status species. Detailed accounts for these species are provided in Appendix E of the *Biological Resources Specialist Report* (Aspen, 2008).

Special-Status Wildlife Species

Fifty-seven special-status wildlife species have the potential to occur within the Central Region of the proposed Project. Table 3.4-7 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of special-status species. Detailed accounts for these species are provided in Appendix J of the *Biological Resources Specialist Report* (Aspen, 2008).

Wildlife Movement

The Central Region is located entirely within the boundaries of the ANF traversing an area dominated by steep, mountainous ridgelines and deep valleys. From a wildlife movement perspective, the ANF can be considered a large block of continuous open space surrounded by transitional ecotones, including the arid desert regions to the north and the highly developed San Gabriel Valley and Los Angeles Basin to the south. As a result, the ANF provides expansive habitat for wildlife movement and represents a broad, regional linkage between the San Bernardino Mountains to the east and the Santa Susana and Sierra Madre Mountains to the west. Subsequently, the FS has placed program emphasis, with respect to wildlife management, on minimizing the effects of urbanization, including protecting core areas such that these areas will continue to conserve biodiversity in an interconnected regional open space network. Additionally, habitat loss and fragmentation will be reduced through conserving and managing habitat linkages within, and where possible between, the national forests and other public and privately conserved lands (USDA, 2005).

Some of the areas that support important linkages and corridors on the ANF include: the Mount Wilson/Monrovia Peak area, which contains the region’s largest and most continuous stands of bigcone Douglas fir, a productive habitat for spotted owl; the three forks (West, North, and East) of the Upper San Gabriel River, which provide suitable riparian and aquatic habitat linkages throughout much of their courses; the Mojave Front Country, which provides a transitional linkage between the desert habitats in the north with the mountainous regions of the ANF; and, Big Tujunga Canyon, which serves as an important corridor for wildlife movement between the southern front country of the ANF to areas upstream along Big Tujunga Creek. Continuous stands of native vegetation communities within these areas provide necessary habitat for a variety of species, including migratory stopovers for songbirds, dispersal habitat for locally rare species like southwestern pond turtle, and breeding, nesting, and foraging habitat for raptors. In several areas throughout the ANF, steep topography and dense vegetation facilitate

wildlife movement through riparian corridors. Additionally, it appears that large mammals, such as black bear, mountain lion, and mule deer, routinely use existing access roads as links between habitat patches and as possible microhabitats for foraging. This is evident in the significant amount of visual signs that were detected over the course of various surveys. Mountain lion and black bear tracks and scat were identified along access roads on numerous occasions in areas including Upper Big Tujunga Creek, Shortcut Saddle, and the West Fork San Gabriel River, and, a mountain lion kill was detected adjacent to an access road just north of Aliso Canyon. Black bears of multiple age classes were also observed on access roads in Monrovia Canyon and along Lynx Gulch. Various age classes of mule deer were also observed along several access roads throughout the forest and it is evident that they forage on plant species that occur along the road edges.

Although the ANF constitutes important continuous open space which supports the migratory and dispersal requirements for a number of wildlife species, the proposed alignment through this region primarily occurs high atop mountain ridgelines and generally some distance from important riparian corridors located in the valleys below. Furthermore, various barriers that limit wildlife movement currently exist in many areas throughout the forest. These include major roadways, such as Angeles Crest, Angeles Forest, and San Gabriel Canyon Highways; existing utility corridors; a complex network of access roads, OHV roads, and trails; and, dams and reservoirs, such as Big Tujunga and Cogswell. Use of existing access roads to support construction will likely be the largest single factor affecting wildlife movement on the ANF.

3.4.2.3.3 Southern Region

The Southern Region consists of Segments 7, 8, and the southernmost portion of Segment 11 that is located south of the ANF boundary. Although the overwhelming majority of this region is dominated by urbanized development, such as the existing ROW; highly traveled roads; and residential, commercial, and industrial properties; many portions of the region contain large, continuous blocks of native vegetation. These areas support suitable habitat for a variety of special-status plant and wildlife species and in some cases serve as the last remaining islands of native habitat for neotropical birds as they pass through the region during the migratory season.

Segment 7 begins in the foothills of the San Gabriel Mountains just north of the City of Duarte. As this portion of the segment extends south, it traverses coastal sage scrub habitat down to the base of the foothills. From this point, the ROW continues south through residential neighborhoods and a nursery to the San Gabriel River corridor. As the ROW ties into the corridor, it parallels the San Gabriel River and the San Gabriel Freeway in a generally southwest direction. The San Gabriel River in this area could be categorized as a classic urban stream channel, lined with concrete throughout several sections and primarily surrounded by development on each side. However, in several areas large stands of native vegetation occur scattered throughout the channel and adjacent uplands.

As the ROW extends southwest, a patchwork of native vegetation communities, including riparian habitat such as mulefat and southern willow scrub, Riversidean alluvial fan sage scrub, and coastal sage scrub occur interspersed between large, continuous blocks of highly degraded, ruderal habitats and urbanized development. Within and adjacent to the San Gabriel River corridor, areas such as the Santa Fe Dam Floodplain SEA, Whittier Narrows Dam Recreation Area, and Montebello Oil Fields support large patches of native coastal sage and Riversidean alluvial fan sage scrub communities as well as smaller ribbons of riparian scrub. Although highly degraded in some areas, these communities provide suitable

habitat for a number of special-status species, including the federally endangered least Bell's vireo and the federally threatened coastal California gnatcatcher.

Segment 8 begins at the existing Mesa Substation and continues roughly east through the Los Angeles Basin until its termination at the existing Mira Loma Substation in San Bernardino County. As this segment extends east from the Mesa Substation and crosses into the City of Montebello, it traverses the Montebello Hills Oil Fields. This area is unique in that it supports occupied breeding habitat for the coastal California gnatcatcher within rolling hills dominated by coastal sage scrub. Beyond this point, the segment intersects the San Gabriel River near the Whittier Narrows Dam Recreation Area and begins to parallel an area that represents the western region of the Puente-Chino Hills Wildlife Corridor. The Puente-Chino Hills Wildlife Corridor is ecologically significant in that it represents some of the last remaining pockets of intact habitat amidst expansive urban sprawl in the Los Angeles Basin for a variety of both common and special-status plant and wildlife species. The wildlife corridor extends approximately 31 miles east and covers more than 30,000 acres through the Whittier Narrows Dam and Recreation Area, Puente Hills Landfill Native Habitat Preservation Authority, Puente Hills, Chino Hills, and the Cleveland National Forest. The overall importance of the Puente-Chino Hills Wildlife Corridor is reflected by the extensive amount of research that has been conducted throughout the area on wildlife movement and by the type and number of species that occur in the area (Robertson et al., 1995; Noss et al., 1996; Haas and Crooks, 1999; Haas, 2000; Haas and Turschak, 2002; Cooper, 2000; PCR et al., 2000; Lyren, 2001; Schlotterbeck, 2001; Haas et al., 2002; Case and Fisher, 1998; PCR, 2002). Segment 8 continues along the Puente and Chino Hills before traversing urbanized and agricultural areas in the eastern portion of the segment. Segment 8 terminates at the Mira Loma Substation, which is located in an agricultural area in the city of Ontario.

In the Southern Region, Segment 11 begins at the southern boundary of the ANF, passes through Eaton Canyon, and extends south to the existing Mesa Substation in the City of Monterey Park. As this segment travels south through an existing utility corridor, it traverses heavily developed areas comprised of major roadways and residential, commercial, and industrial properties. Several nurseries occur within the utility corridor. This segment continues south until its termination at the Mesa Substation. Just prior to this point, the segment lies just west of the Whittier Narrows Dam Recreation Area and just northwest of the Montebello Oil Fields.

Vegetation

The majority of the proposed Project in the Southern Region is Barren/Developed (Table 3.4-5). Undeveloped native vegetation is primarily located in the Whittier Narrows Recreation Area, San Gabriel River Channel, Montebello Hills, and Puente and Chino Hills. Within these areas, the most common vegetation type is Coastal Sage Scrub, followed by Ruderal Grassland, Coast Live Oak Woodland, and California Annual Grassland. Three vegetation types are dominated by nonnative plants: California Annual Grassland, Non-native Woodland, and Exotic (giant reed; *Arundo donax*). Extensive portions of both grassland habitat types (Ruderal Grassland and California Annual Grassland) are dominated by dense stands of non-native plant species. State-protected habitats that occur in the Southern Region include Southern Cottonwood Willow Riparian Forest, California Walnut Woodland, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland. Numerous blue-line drainages appear within the Southern Region, primarily along the San Gabriel River. USGS NWI maps depict numerous, small (0.3 to 1.0 acres) temporarily flooded wetlands and marshes, primarily near Chino. Several lakes and ponds occur within the northern portions of Segments 7 and 11 in the Southern Region.

Common Wildlife

As the majority of the Southern Region encompasses areas dominated by development, common wildlife species occurring throughout the area represent of broad spectrum of animals adapted to urban conditions. These include mammals such as opossum (*Didelphus virginiana*), striped skunk, raccoon (*Procyon lotor*), and coyote. Given the proximity to heavily developed areas, domestic cat (*Felis catus*) and dog (*Canis familiaris*) are expected to frequent a majority of the areas throughout the Southern Region. Many of the bird species occurring in the Southern Region, including mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), American crow (*C. branchyrhyncos*), house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*) are commonly associated with urbanized areas. However, several areas throughout the Southern Region, particularly the Puente-Chino Hills Wildlife Corridor, support natural open space and suitable riparian habitat for a number of bird species, such as yellow-breasted chat (*Icteria virens*), yellow warbler (*Dendroica petechia*), red-winged blackbird (*Agelaius phoeniceus*), phainopepla (*Phainopepla nitens*), and hooded oriole (*Icterus cucullatus*). Reptile species that are likely to occur in the Southern Region include western fence lizard and side-blotched lizard.

Vegetation Types

Twenty-three vegetation types were mapped within the Southern Region of the proposed Project. Table 3.4-5 lists these habitat types including acres and percentage of total acreage within the proposed Project. Full descriptions of each of these habitats are provided in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008) and vegetation maps are provided (Figure 3.4-4 located in the Map & Figure Series Volume).

Habitat Type	Acres	Percentage of Total Acreage
Barren/Developed	4763.76	53.68%
Coastal Sage Scrub	847.27	9.55%
Ruderal Grassland	766.82	8.64%
Coast Live Oak Woodland	491.32	5.54%
California Annual Grassland	445.29	5.02%
Agriculture	325.25	3.67%
California Walnut Woodland	261.01	2.94%
Nonnative Woodland	225.05	2.54%
Water	164.82	1.86%
Mixed Chaparral	146.93	1.66%
Mule Fat Scrub	70.26	0.79%
Southern Willow Scrub	67.89	0.77%
Ruderal Wetland	50.50	0.57%
Sparsely vegetated channel in non-desert	48.76	0.55%
Riversidean Alluvial Fan Sage Scrub	45.25	0.51%
Southern Arroyo Willow Riparian Forest	44.72	0.50%
Bunchgrass Grassland	36.81	0.41%
Southern Coast Live Oak Riparian Forest	26.80	0.30%
Southern Sycamore Alder Riparian Woodland	25.13	0.28%
Southern Cottonwood Willow Riparian Forest	12.05	0.14%
Exotic - Giant Reed	6.76	0.08%
Freshwater Marsh	1.20	0.01%
Scrub Oak Chaparral	0.04	0.00%
Total	8873.70	100.00%

Special-status Species

Special-Status Plant Species

Thirty-four special-status plant species have the potential to occur within the Southern Region of the proposed Project. Table 3.4-6 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of special-status species. Detailed accounts for these species are provided in Appendix E of the *Biological Resources Specialist Report* (Aspen, 2008).

Special-Status Wildlife Species

Fifty special-status wildlife species have the potential to occur within the Southern Region of the proposed Project alignment. Table 3.4-7 lists these species, their status, and their potential for occurrence. Figure 3.4-5, located in the Map & Figure Series Volume, shows the locations of special-status species. Detailed accounts for these species are provided in Appendix J of the *Biological Resources Specialist Report* (Aspen, 2008).

Wildlife Movement

As described above, areas surrounding the Southern Region represent some of the most vital wildlife corridors and linkages in southern California, particularly the Puente-Chino Hills Wildlife Corridor. This corridor is a peninsula of mostly undeveloped hills that extend from the densely urbanized Los Angeles Basin southeast to the Santa Ana Mountains (CBI, 2005). Some of the key geographic units within the corridor include, but are not limited to, Whittier Narrows (an isolated patch at the northwest limits), Whittier Hills, Schabarum Park, Powder Canyon, Shell-Aera (privately owned), Carbon Canyon, Tonner Canyon, and Chino Hills. Much of the area, particularly through the Puente-Chino Hills, has remained immune from development due to geologic features such as steep slopes, earthquakes, and landslides. Tar pits and active and former oil wells have also limited development in the region (CBI, 2005).

Evidence of significant wildlife movement throughout the corridor has been heavily documented through numerous studies in the area (Robertson et al., 1995; Noss et al., 1997; Haas and Crooks, 1999; Haas, 2000; Haas and Turschak, 2002; Cooper, 2000; PCR et al., 2000; Lyren, 2001; Schlotterbeck, 2001; Haas et al., 2002; Case and Fisher, 1998; PCR, 2002). The corridor appears functional for at least larger mammals and birds, although movement is limited through some portions, including the Shell-Aera area, which is also known as the “missing middle” due to its private ownership amidst surrounding public lands (CBI, 2005). Wildlife movement is restricted in this area due to several barrier or near barrier roads, including State Route 57 and Harbor Boulevard (CBI, 2005). Due to strong edge effects associated with urban development, human presence, and domestic pet activity, corridor function is also tempered along portions of Tonner Canyon and Schabarum Park (CBI, 2005).

The movement patterns of large carnivores, such as mountain lion, coyote, and bobcat, have been intensely analyzed in this area. Mammalian carnivores are particularly vulnerable to extinction due to habitat fragmentation because they occur at low population densities and require expansive land areas for their home ranges (Shaffer, 1983; Beier, 1993; Noss et. al., 1996). The disappearance of top predators can result in a trickle-down effect that leads to an increase in smaller mesopredator populations, including raccoon, striped skunk, and opossum. Increased mesopredator populations, in turn, introduce a threat to populations of smaller prey species, particularly birds (Soule et. al., 1988). This occurs because mesopredators are efficient hunters of birds and bird nests which are largely ignored by the larger predators (CBI, 2005).

The corridor supports several areas of high-quality habitat for a variety of special-status bird species, including coastal California gnatcatcher, least Bell's vireo, northern harrier, and cactus wren (Cooper, 2000). Several amphibian and reptile species also occur in the area; however, there appears to be a gradient of declining diversity and evenness of these species moving west from the Chino Hills. This is likely a result of an increase in edge effects and mortality risks in more fragmented portions of the corridor that occur farther west from source populations (Haas et. al., 2002).

All existing roads within the corridor serve as barriers to some extent, ranging from highly permeable and permeable filters such as Turnbull Canyon Road and Carbon Canyon Road, respectively, to barriers such as the San Gabriel Freeway (which isolates the Whittier Narrows connection in the northwest), Harbor Boulevard, and State Routes 57 and 91 (CBI, 2005). State Routes 57 and 91 represent absolute barriers to wildlife movement with the exceptions of the Tonner Canyon Bridge and Coal Canyon Underpass, respectively. While Segment 8 of the proposed alignment occurs north of the arbitrary boundaries of the Chino-Puente Hills Wildlife Corridor, it traverses continuous habitat associated with many of the same geographic units, therefore, occurring within the zone of influence for the corridor's functionality.

Another wildlife movement corridor in the Southern Region is the San Gabriel River corridor that extends from the San Gabriel Mountains in the north to Whittier Narrows in the south. This area consists primarily of a channelized segment of the San Gabriel River in an urban landscape. This corridor allows movement for wildlife across the San Gabriel Valley. Many large mammals, raccoons, coyotes, and mountain lions have been documented using the flood control channels from the mountains into the various drainages for the Los Angeles and San Gabriel Rivers.

Just prior to exiting the southern boundary of the ANF, Segment 11 bisects the Arroyo Seco as it flows from the San Gabriel Mountains south towards the Los Angeles Basin and eventually connects with the Los Angeles River near the intersection of the 5 and 110 freeways in the City of Los Angeles. The Arroyo Seco provides a transitional linkage between the urbanized environment to the south and the vast open space of the ANF. This area lies within the boundaries of the Hahamongna Watershed Park Master Plan (City of Pasadena, 2003). According to the Plan, more than 100 animal species were observed during surveys conducted within the Plan boundaries. The Upper Arroyo Seco in this area is dominated by riparian scrub and non-native grassland habitats with oak woodlands and other scrub habitats occupying patchy areas along the banks. As the Arroyo Seco extends south towards greater metropolitan Los Angeles, the majority of the vegetation occupying the channel and banks is replaced by concrete lining; however, small patches of native vegetation occur sporadically along the course towards the Los Angeles River. The presence of native vegetation amidst heavily developed surroundings, coupled with the downstream connection to the Los Angeles River, provides adequate habitat for wildlife movement through this area. Additionally, the Arroyo Seco provides a linkage to wilderness areas in the surrounding urban areas, such as Pasadena, Glendale, and La Canada-Flintridge.

3.4.2.3.4 Special-Status Species Occurrence Tables

Table 3.4-6 lists the potential for special-status plant species to occur in the proposed Project area. Table 3.4-7 lists the potential for special-status wildlife to occur in the proposed Project area. Likelihood for occurrence is defined as follows:

- Present:** Species or sign of their presence observed on the site
- Likely:** Species or sign not observed on the site, but reasonably certain to occur on the site
- Possible:** Species or sign not observed on the site, but conditions suitable for occurrence
- Unlikely:** Species or sign not observed on the site, conditions marginal for occurrence
- Absent:** Species or sign not observed on the site, conditions unsuitable for occurrence

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Abram's alumroot <i>Heuchera abramsii</i>	CNPS 4.3, FSS	Dry, rocky areas in upper montane coniferous forest. Elev. 2800-3500 m. July-August	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible. All occurrences for this species are on the ANF and occur in the Sheep Wilderness Area east of the Project area.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible. All occurrences for this species are on the ANF and occur in the Sheep Wilderness Area east of the Project area.</p>
Alkali mariposa lily <i>Calochortus striatus</i>	CNPS 1B.2, FSS	Alkaline soils, in floodplains and springs in chaparral, chenopod scrub, and Mojavean desert scrub. Elev. 230-5,232 ft. April-June.	<p>Segment 4: Unlikely. Suitable habitat may exist in alkaline soils within Mojave Creosote Bush Scrub or Desert Saltbush Scrub, but no such areas were observed within the alignment during focused 2008 surveys of each impact location.</p> <p>Segment 5: Unlikely. Suitable habitat may exist in alkaline soils within Mixed Chaparral and Big Sage Brush Scrub, but no such areas were observed within the alignment during focused 2008 surveys of each impact location.</p> <p>Segment 6: Unlikely. Suitable habitat may exist in alkaline soils in the Northern Region within Big Sagebrush Scrub surrounding the Vincent Substation, but no such areas were observed within the alignment during focused 2008 surveys of each impact location. One record of this species exists within the San Gabriel Mountains in the Central Region and could represent a misidentification. No suitable habitat was observed to exist within the Central Region during either 2007 or 2008 focused surveys.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Suitable habitat may exist in alkaline soils within Mojave Creosote Bush Scrub or Desert Saltbush Scrub, but no such areas were observed within the alignment during focused 2008 surveys of each impact location.</p> <p>Segment 11: Unlikely. Suitable habitat may exist in alkaline soils within Mixed Chaparral, Big Sage Brush Scrub, and Mojave Creosote Bush Scrub, but no such areas were observed within the alignment during focused 2008 surveys of each impact location. One record of this species exists within the San Gabriel Mountains in the Central Region and could represent a misidentification. No suitable habitat was observed to exist within the Central Region during either 2007 or 2008 focused surveys.</p>
Baja navarretia <i>Navarretia peninsularis</i>	CNPS 1B.2, FSS	Mesic sites within chaparral and lower montane coniferous forest communities. Elev. 4,900-7,600 ft. June-August.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Although suitable habitat is present, the only known occurrence of this species within Los Angeles County is in the vicinity of Frazier Mtn.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Although suitable habitat is present, the only known occurrence of this species within Los Angeles County is in the vicinity of Frazier Mtn.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Brand's phacelia <i>Phacelia stellaris</i>	CNPS 1B.1, FC	Sandy substrates within coastal dune and coast scrub communities. Elev. below 1,113 ft. March-June.	<p>Segment 4: Unlikely. Outside of the known range of the species and no suitable habitat exists.</p> <p>Segment 5: Unlikely. Outside of the known range of the species and no suitable habitat exists.</p> <p>Segment 6: Unlikely. Outside of the known range of the species and no suitable habitat exists.</p> <p>Segment 7: Possible. There is a historical population of this species within the proposed Project in the San Gabriel River east of El Monte.</p> <p>Segment 8: Possible. Although there are no historical records of this species within the immediate vicinity of this segment, sandy substrates in the Puente/Chino Hills may offer suitable habitat.</p> <p>Segment 10: Unlikely. Outside of the known range of the species and no suitable habitat exists.</p> <p>Segment 11: Unlikely. Only marginal habitat is present for this species within this Segment and is either highly developed or disturbed. This species is not known to occur in the foothills of the San Gabriel Mountains.</p>
Braunton's milk-vetch <i>Astragalus brauntonii</i>	CNPS 1B.1, FE	Chaparral, coastal scrub, closed-cone coniferous forests, and scrubby valley and foothill grasslands in recently burned or disturbed areas. Elev. below 2,100 ft. February-June.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. There is an extant population of this species between Segments 7 and 11 just south of the ANF boundary.</p> <p>Segment 7: Possible. There is an extant population of this species between Segments 7 and 11 just south of the ANF boundary.</p> <p>Segment 8: Possible. Although there are no historical records of this species within the immediate vicinity of this segment, any disturbed or recently burned sites in the Puente/Chino Hills may offer suitable habitat.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible. There is an extant population of this species between Segments 7 and 11 just south of the ANF boundary.</p>
California androsace <i>Androsace elongata</i> <i>ssp. acuta</i>	CNPS 4.2, FSW	Coastal scrub, chaparral, cismontane woodland, meadows and seeps, and valley and foothill grassland habitats. Elev. 492-3,936 ft. March-June.	<p>Segment 4: Possible. Suitable habitat exists in the northern portions within California Annual Grassland.</p> <p>Segment 5: Present. This subspecies was identified within 200 feet of tower location 31 along this alignment. Several populations occur on the border of the Antelope Valley and the San Gabriel Mountains.</p> <p>Segment 6: Possible. Several populations occur on the border of the Antelope Valley and the San Gabriel Mountains, and on the foothill desert slopes of the San Gabriel, Liebre, and San Bernardino Mountains.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Desert Bunchgrass Grassland may provide marginal habitat.</p> <p>Segment 11: Possible. Several populations occur on the border of the Antelope Valley and the San Gabriel Mountains and on the foothill desert slopes of the San Gabriel, Liebre, and San Bernardino Mountains.</p>
California satintail <i>Imperata brevifolia</i>	CNPS 2.1, FSS	Meadows and seeps within chaparral, coastal scrub, and Mojavean desert scrub communities. Elev. below 1,700 ft. September-May.	<p>Segment 4: Unlikely. Although suitable habitat may be present, there are no records of the species occurring within the region.</p> <p>Segment 5: Unlikely. Although suitable habitat may be present, there are no records of the species occurring within the region.</p> <p>Segment 6: Possible in the Central Region. Reported populations occur in the San Dimas Experimental Forest, between Fish and Roberts Canyon and along Big Tujunga Canyon Rd. Unlikely in the Northern Region. Although suitable habitat may be present, there are no records of the species occurring within the region.</p> <p>Segment 7: Possible. There is suitable habitat for this species in the foothills of the San Gabriel Mountains north of Duarte. Recorded populations of this species occur in the San Dimas Experimental Forest and between Fish and Roberts Canyons.</p> <p>Segment 8: Possible. Although there are no historical records for this species in the Puente/Chino Hills, suitable habitat may be present.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			<p>Segment 10: Unlikely. Although suitable habitat may be present, there are no records of the species occurring within the region.</p> <p>Segment 11: Possible in the Central and Southern Regions. Reported populations occur in the San Dimas Experimental Forest, between Fish and Roberts Canyon and along Big Tujunga Canyon Rd. There is suitable habitat for this species in the foothills of the San Gabriel Mountains north of Altadena and La Cañada Flintridge. Unlikely in the Northern Region. Although suitable habitat may be present, there are no records of the species occurring within the region.</p>
California walnut <i>Juglans californica</i>	CNPS 4.2, FSW	Alluvial soils within chaparral, cismontane woodland, and coastal scrub communities. Elev. 150-3,000 ft. March-August.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. The species was observed within the proposed Project immediately adjacent to access road 3N23.</p> <p>Segment 7: Possible. There is suitable habitat for this species in the foothills of the San Gabriel Mountains north of Duarte. The species was observed on Segment 11 in the foothills of the San Gabriel mountains within the ANF.</p> <p>Segment 8: Present. This species was observed on Segment 8 in the Puente/Chino Hills. Over 260 acres of California Walnut Woodland was mapped in this area.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Present in the Central Region. The species was observed within the proposed Project off of Dark Canyon Rd in the southern foothills of the San Gabriel Mountains. Possible in the Southern Region. The species was observed on Segment 11 in the foothills of the San Gabriel mountains within the ANF.</p>
Catalina mariposa lily <i>Calochortus catalinae</i>	CNPS 4.2	Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitat. Elev. 49-2,297. (February) March-June.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. Only marginally suitable habitat is present within the southern portions of Segment 7, and these areas are highly disturbed.</p> <p>Segment 8: Likely. Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands. Suitable habitat occurs and CNDDDB records for the species occur within CHSP. The Consortia of Herbaria lists 275 records of this species within Southern California.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Only marginally suitable habitat is present within these portions of Segment 11, and these areas are highly disturbed.</p>
Chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	CNPS 1B.1	Chaparral, coastal scrub and desert dune habitat in loose, sandy soils. Elev. 262-5,249 ft. January-September.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. There are no records of this variety within 5 miles of the proposed Project. Additionally, habitat conditions within the proposed Project are marginal for this plant and highly impacted.</p> <p>Segment 8: Possible. Two records of this variety occur south of Segment 8 in the vicinity of Highway 91. Suitable habitat exists within the Puente/Chino Hills.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. There are no records of this variety within 5 miles of the proposed Project. Additionally, habitat conditions within the proposed Project are marginal and highly impacted.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Chickweed oxytheca <i>Oxytheca caryophylloides</i> (= <i>Sidotheca caryophylloides</i>)	CNPS 4.3, FSS	Sandy soils within lower montane coniferous forest communities. Elev. 3,654-8,530 ft. July-September.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. There are 2 records of this species in the vicinity of the proposed Project on Waterman Mountain and Kratka Ridge.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. There are 2 records of this species in the vicinity of the proposed Project on Waterman Mountain and Kratka Ridge.</p>
Coulter's matilija poppy <i>Romneya coulteri</i>	CNPS 4.2	Chaparral and coastal scrub, often in burns. Elev. 65-3,934 ft. March-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible. Suitable habitat is present and the Consortia of Herbaria lists 148 records of this species within Southern California.</p> <p>Segment 7: Unlikely. Known historically from the Chino Hills, but currently considered to be absent from the area. Not observed during protocol-level surveys.</p> <p>Segment 8: Likely: Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands, however not known if this is a native occurrence. Known historically from the Chino Hills, but currently considered to be absent from the area. Not observed during protocol-level surveys.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. This species was observed during spring 2008 surveys in the vicinity of the southern portion of Segment 11, approx. 2/3 of a mile outside of the ANF.</p>
Coulter's saltbush <i>Atriplex coulteri</i>	CNPS 1B.2	Coastal scrub, and valley and foothill grasslands underlain with clay and alkaline soils. Elev. below 1,509 ft. March-October.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. There are no records of this species within 10 miles of this segment.</p> <p>Segment 8: Possible. A historical population occurs within the proposed Project in the vicinity of Chino Creek.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. There are no records of the species within 10 miles of this Segment.</p>
Davidson's bush mallow <i>Malacothamnus davidsonii</i>	CNPS 1B.2	Sandy washes and flats within Coastal Scrub and chaparral communities. Elev. 600-2,800 ft. June-January.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the central Region. The Consortium of California Herbaria lists 17 records of this species within the San Gabriel Mountains. The potential for occurrence is restricted to suitable habitats south of the Mill Creek Summit Divide.</p> <p>Segment 7: Possible. Suitable habitat for this species occurs in the foothills of the San Gabriel Mountains north of Duarte.</p> <p>Segment 8: Possible. Suitable habitat for this species occurs in the Puente/Chino Hills and surrounding areas.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central and Southern Regions. The Consortium of California Herbaria lists 17 records of this species within the San Gabriel Mountains. The potential for occurrence is restricted to suitable habitats south of the Mill Creek Summit Divide. Suitable habitat for this species occurs in the foothills of the San Gabriel Mountains north of Altadena and La Cañada Flintridge and along the San Gabriel River.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Davidson's saltscale <i>Atriplex serenana</i> var. <i> davidsonii</i>	CNPS 1B.2	Coastal scrub and coastal bluff scrub habitats underlain by alkaline soils. Elev. below 656 ft. March-October.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Outside of the known range of the species. Segment 7: Possible. Suitable habitat for this variety may exist within the proposed Project in the San Gabriel River. Segment 8: Possible. This variety could occur within the Puente/Chino Hills and surrounding areas. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. The areas of this segment that are within the species elevation range are located in highly developed metropolitan areas.
Engelmann oak <i>Quercus engelmannii</i>	CNPS 4.2	Canopy species in grassland/oak savanna or chaparral and within riparian corridors along raised stream terraces. Elev. 160-4500 ft. March-June.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Likely in the Central Region. Suitable habitat occurs within riparian corridors throughout the ANF. Segment 7: Unlikely. Not known from the Chino/Puente Hills; considered to be absent. Not observed during protocol-level surveys Segment 8: Unlikely. Not known from the Chino/Puente Hills; considered to be absent. Not observed during protocol-level surveys Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Present in the Central Region. This species was detected within 200 feet of tower locations 92 and 93 of this alignment. There are also a few known sites around the San Gabriel Mountain foothill cities. Suitable habitat occurs within riparian corridors throughout the ANF.
Ewan's cinquefoil <i>Potentilla glandulosa</i> ssp. <i> ewanii</i>	CNPS 1B.3, FSS	Lower montane coniferous forest near seeps and springs. Elev. 6,230-7,875 ft. June-July.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Known only from four occurrences near the Dawson 'Saddle area. Outside of known elevational range for this species. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Known only from four occurrences near the Dawson 'Saddle area. Outside of known elevational range for this species.
Fragrant pitcher sage <i>Lepechinia fragrans</i>	CNPS 4.2, FSS	Chaparral; generally associated with California sagebrush (<i>Artemisia californica</i>), buckwheat (<i>Eriogonum sp.</i>), and white sage (<i>Salvia apiana</i>). Elev. below 4,298 ft. March-October.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Likely. The species is expected to occur on north-facing slopes in the southern foothills of the San Gabriel Mountains. Segment 7: Possible. Suitable habitat is present on the north facing slopes in the foothills of the San Gabriel Mountains. The Consortium of California Herbaria lists 31 records of this species in the San Gabriel Mountains. Segment 8: Unlikely. This segment lies outside the known range of this species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Present in the Central and Southern Regions. Several populations of this species were observed within the proposed Project, including on and adjacent to Grizzly Flat Road and CCC Ridge Road during 2008 surveys. Also observed within the proposed Project off of Dark Canyon Rd. This species is locally abundant on north facing slopes in the foothills of the San

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			Gabriel Mountains.
Gairdner's yampah <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	CNPS 4.2, FSW	Chaparral, coastal prairie, and valley and foothill grassland communities. Elev. below 1,197 feet. June-October.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Although suitable habitat is present, there are no records of this subspecies near this segment.</p> <p>Segment 7: Unlikely. Although suitable habitat is present, there are no records of this subspecies within this region.</p> <p>Segment 8: Unlikely. Although suitable habitat is present, there are no records of this subspecies within this region.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Although suitable habitat is present, there are no records of this subspecies near the Project alignment.</p>
Golden violet <i>Viola aurea</i>	CNPS 2.2	Great Basin scrub and pinyon and juniper woodland habitats in sandy soils. Elev. 3,280-5,900 ft. April-May.	<p>Segment 4: Unlikely. There are no recorded populations of this species within the Antelope Valley.</p> <p>Segment 5: Possible. There are recorded populations of this species in the vicinity of Big Rock Creek and Big Pines.</p> <p>Segment 6: Possible in the Northern and Central Regions. There are recorded populations of this species in the vicinity of Big Rock Creek and Big Pines. There are also population records in the vicinity of Big Rock Creek and Big Pines. The potential for occurrence is restricted to suitable habitats north of the Mill Creek Summit Divide.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. There are no recorded populations of this species within the Antelope Valley.</p> <p>Segment 11: Possible in the Northern and Central Regions. There are recorded populations of this species in the vicinity of Big Rock Creek and Big Pines. There are also population records in the vicinity of Big Rock Creek and Big Pines. The potential for occurrence is restricted to suitable habitats north of the Mill Creek Summit Divide.</p>
Greata's aster <i>Aster greatae</i> = (<i>Symphotrichum greatae</i>)	CNPS 1B.3	Chaparral, broadleaved upland forests, lower montane coniferous forests, riparian woodlands, and southern oak woodlands, particularly in canyons. Elev. 984-6,594 ft. June-October	<p>Segment 4: Unlikely. This segment lies outside the known range of this species, which is endemic to the San Gabriel Mountains.</p> <p>Segment 5: Possible. Recorded occurrence near Acton. Northern portions of the segment in the Antelope Valley are outside the known range of the species.</p> <p>Segment 6: Present in the Central Region. Several records of this species occur within the proposed Project. In addition, the species was observed immediately adjacent to this segment during surveys of the alignment. Possible in the Northern Region. There is a recorded occurrence near Acton, just west of the Vincent Substation.</p> <p>Segment 7: Possible. This species is endemic to the San Gabriel Mountains. Therefore, potential occurrence for this species is limited to the foothills of the San Gabriel Mountains.</p> <p>Segment 8: Unlikely. This segment is outside of the known range of the species. The species is endemic to the San Gabriel Mountains.</p> <p>Segment 10: Unlikely. This segment lies outside the known range of this species, which is endemic to the San Gabriel Mountains.</p> <p>Segment 11: Present in the Central Region. Several records of this species occur within the proposed Project. In addition, the species was observed immediately adjacent to this segment during surveys of the alignment. Possible in the Northern Region. There is a recorded occurrence near Acton, just west of the Vincent Substation. Unlikely in the Southern Region - outside of the known range for this species.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Hall's monardella <i>Monardella macrantha</i> ssp. <i>hallii</i>	CNPS 1B.3, FSS	Dry slopes and ridges within chaparral, Cismontane Woodland, Lower Montane Coniferous Forest, and Valley and Foothill Grassland communities. Elev. 2,400-7,200 ft. June-August.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Although suitable habitat is present in the Central Region, the only known occurrence of this subspecies within the San Gabriel Mountains is over 10 miles east of the proposed Project in the vicinity of Sunset Peak.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Although suitable habitat is present in the Central Region, the only known occurrence of this subspecies within the San Gabriel Mountains is over 10 miles east of the proposed Project in the vicinity of Sunset Peak.</p>
Intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	CNPS 1B.2	Rocky soils within chaparral, coastal scrub, and valley and foothill grassland habitats. Elev. 344-2,805 ft. May-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. Only marginal habitat for this variety is present and is either highly developed or disturbed. This subspecies is not known from foothills of the San Gabriel Mountains.</p> <p>Segment 8: Present. This variety was detected within 200 feet of tower locations 25, 27, and 64 along this alignment. Additionally, a recorded population occurs immediately south of Segment 8 in the vicinity of Sonome Canyon in the Chino Hills.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Only marginal habitat for this variety is present and is either highly developed or disturbed. This plant is not known from foothills of the San Gabriel Mountains.</p>
Johnston's buckwheat <i>Eriogonum microthecum</i> var. <i>johnstonii</i>	CNPS 1B.3, FSS	Subalpine and upper montane coniferous forests. Elev. 6,000-9,600 ft. July-September.	<p>Segment 4: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 5: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 6: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 7: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 8: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 10: Unlikely. Outside of known distribution range for this species.</p> <p>Segment 11: Unlikely. Outside of known distribution range for this species.</p>
Kuche's sandwort <i>Arenaria macradenia</i> var. <i>kuschei</i>	CNPS 1B.1, FSS	Rocky chaparral habitats. Elev. 4,000-5,580 ft. June-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of known distribution range for this species although suitable habitat exists in the Central Region.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Outside of known distribution range for this species although suitable habitat exists in the Central Region.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Laguna Mountains jewel-flower <i>Streptanthus bernardinus</i>	CNPS 4.3, FSS	Chaparral and lower montane coniferous forest. Elev. 2,200-8,200 ft. May-August.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Although suitable habitat is present, there are no records of this species in Los Angeles County. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Although suitable habitat is present, there are no records of this species in Los Angeles County.
Late-flowered mariposa lily <i>Calochortus weedii</i> var. <i>vestus</i>	CNPS 1B.2, FSS	Chaparral, cismontane woodland, and riparian woodland (often serpentine). Elev. 900-6,250 ft. June-August.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Outside of the known range of the species. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Outside of the known range of the species.
Lemmon's syntrichopappus <i>Syntrichopappus lemmonii</i>	CNPS 4.3, FSW	Chaparral, Joshua tree woodland, and pinyon and juniper woodlands within sandy or gravelly soils. Elev. 1,640-6,004 ft. April-May.	Segment 4: Possible. There are several occurrences of this species in the Antelope Valley and surrounding mountains. Segment 5: Possible. There are several occurrences of this species in the Antelope Valley and surrounding mountains. Segment 6: Possible in the Northern and Central Regions. There are several occurrences of this species in the Antelope Valley and surrounding mountains. The Consortium of California Herbaria lists 23 records of this species in the San Gabriel Mountains. Segment 7: Unlikely. All reported populations of this species are from the Transverse Range, Peninsular Range, and Mojave Desert regions. There are no reports of the species occurring in the southern foothills of the San Gabriel Mountains. Segment 8: Unlikely. All reported populations of the species are from the Transverse Range, Peninsular Range, and Mojave Desert region. Segment 10: Possible. There are several occurrences of this species in the Antelope Valley and surrounding mountains. Segment 11: Present in the Central Region. The species was observed within the proposed Project along a potential spur road branching off of 4N24. Possible in the Northern Region. There are several occurrences of this species in the Antelope Valley and surrounding mountains. Unlikely in the Southern Region. All reported populations of the species are from the Transverse Range, Peninsular Range, and Mojave Desert region. There are no reports of the species occurring in the southern foothills of the San Gabriel Mountains.
Lemon lily <i>Lilium parryi</i>	CNPS 1B.2, FSS	Meadows and seeps within lower and upper montane coniferous forests communities. Elev. 4,000-9,000 ft. July-August.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. A population of this species is reported to occur east of Segment 6 in the vicinity of Pacifico Mtn. This occurrence is within 5 miles of the proposed Project. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. The Consortium of California Herbarium lists 23 occurrences of this species within the San Gabriel Mountains.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	CNPS 1B.2	Chaparral, coastal scrub, meadows and seeps, and valley and foothill grassland habitats in clay soils. Elev. 98-5,020 ft. April-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. This segment lies outside the known range of this variety.</p> <p>Segment 8: Unlikely. This segment may lie outside the known range of this variety. The northernmost population of the species is over 10 miles to the south.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. This segment lies outside the known range of this variety.</p>
Los Angeles sunflower <i>Helianthus nuttallii</i> ssp. <i>parishii</i>	CNPS 1A	Salt or freshwater marshes. Elev. below 5,500 ft. August-October.	<p>Segment 4: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937.</p> <p>Segment 5: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937.</p> <p>Segment 6: Unlikely. This subspecies is presumed extinct and no historical records occur within this portion of the San Gabriel Mountains.</p> <p>Segment 7: Unlikely. The Whittier Narrows area may offer marginal habitat; however, this subspecies is presumed extinct, and has not been seen since 1937.</p> <p>Segment 8: Unlikely. The Whittier Narrows area may offer marginal habitat; however, this subspecies is presumed extinct and has not been seen since 1937.</p> <p>Segment 10: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937.</p> <p>Segment 11: Unlikely. This subspecies is presumed extinct and no historical records occur within this portion of the San Gabriel Mountains. This Northern and Southern Regions lack suitable habitat. In addition, this subspecies is presumed extinct, and has not been seen since 1937.</p>
Many-stemmed dudleya <i>Dudleya multicaulis</i>	CNPS 1B.2, FSS	Generally clay soils within chaparral, coastal scrub, and valley and foothill grassland. Elev. 230-2,600 ft. April-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. This species is generally restricted to the Los Angeles Basin; however there are several populations in the southern foothills of the San Gabriel Mountains.</p> <p>Segment 7: Possible. Suitable habitat exists in the foothills just south of the ANF.</p> <p>Segment 8: Likely: Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands. A recorded population occurs in the vicinity of the Puente/Chino Hills.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central and Southern Regions. This species is generally restricted to the Los Angeles Basin; however there are several populations in the southern foothills of the San Gabriel Mountains. Suitable habitat exists in the foothills just south of the ANF.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Mason's neststraw <i>Stylocline masonii</i>	CNPS 1B.1	Chenopod scrub and pinyon and juniper woodland habitats within sandy soils. Elev. 328-3,936 ft. March-May	<p>Segment 4: Unlikely. This segment lies outside the known range of the species.</p> <p>Segment 5: Possible. There is a known occurrence within 5 miles of proposed Project alignment in Soledad Canyon Wash east of Acton. This wash intersects Segment 5 at the Vincent Substation.</p> <p>Segment 6: Possible in the Northern and Central Regions. There is a known occurrence within 5 miles of proposed Project alignment in Soledad Canyon Wash east of Acton. This wash intersects Segment 5 at the Vincent Substation. A population record for this species occurs west of the Vincent Substation outside of Acton. The potential for occurrence is restricted to suitable habitats north of the Mill Creek Summit Divide.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. This segment lies outside the known range of the species.</p> <p>Segment 11: Possible in the Northern and Central Regions. There is a known occurrence within 5 miles of proposed Project alignment in Soledad Canyon Wash east of Acton. This wash intersects Segment 5 at the Vincent Substation. A population record for this species occurs west of the Vincent Substation outside of Acton. The potential for occurrence is restricted to suitable habitats north of the Mill Creek Summit Divide.</p>
Mesa horkelia <i>Horkelia cuneata</i> <i>ssp. puberula</i>	CNPS 1B.1, FSS	Sandy or gravelly habitats within chaparral, cismontane woodland, and coastal scrub communities. Elev. 200-2,700 ft. February-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. Suitable habitat is present, but the potential for occurrence is restricted to the southern foothills of the San Gabriel Mountains.</p> <p>Segment 7: Possible. There are several historical records of this subspecies within 5 miles of the proposed Project. Segment 7 crosses one of these historical occurrences in the San Gabriel River channel north of Mayflower Village.</p> <p>Segment 8: Possible. Although there are no historical records for this subspecies in the Puente/Chino Hills, suitable habitat may be present.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central and Southern Regions. There are 2 recorded populations of this subspecies adjacent to the proposed Project in the foothills surrounding Altadena.</p>
Mojave Indian paintbrush <i>Castilleja plagiotoma</i>	CNPS 4.3, FSS	Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, and pinyon and juniper woodland habitats. Elev. 984-8,200 ft. April-June.	<p>Segment 4: Possible. Suitable habitat for this species is present, and there are numerous collections from the Antelope Valley.</p> <p>Segment 5: Possible. Suitable habitat for this species is present, and there are numerous collections from the Antelope Valley.</p> <p>Segment 6: Possible. Consortium of California Herbaria list several records of this species within the desert foothills of the San Gabriel Mountains. There is a historical occurrence on Mint Canyon Road near Vincent. The range of this species does not extend south of the Mill Creek Summit Divide.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Possible. Suitable habitat for this species is present, and there are numerous collections from the Antelope Valley.</p> <p>Segment 11: Possible. The Consortium of California Herbaria list several records of this species within the desert foothills of the San Gabriel Mountains. There is a historical occurrence on Mint Canyon Road near Vincent. The range of this species does not extend south of the Mill Creek Summit Divide.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Mojave tarplant <i>Deinandra mohavensis</i>	CNPS 1B.3, SE, FSS	Chaparral, coastal sage scrub, and mesic riparian scrub. Elev. 2,100-5,250 ft. July-October.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Project is outside of known distribution range. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species.. Segment 11: Unlikely. Project is outside of known distribution range.
Mt. Gleason Indian paintbrush <i>Castilleja gleasonii</i>	CNPS 1B.2, SR, FSS	Rocky places within lower montane coniferous forest and pinyon and juniper woodland communities. Elev. 2,700-7,120. May-June.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. There are several recorded populations of this species within 5 miles of the proposed Project in the vicinity of Lightning Point Group Camp. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. There is a recorded population of this species within 5 miles of the proposed Project in the vicinity of Horse Flat Campground.
Nevin's barberry <i>Berberis nevinii</i>	CNPS 1B.1, SE, FE	Chaparral, cismontane woodland, coastal scrub, and riparian scrub on gravelly wash margins along alluvial scrub; it prefers coarse soils. Elev. 900- 2,000 ft. March-April.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. The CNDDDB lists 2 extant occurrences of this species within the ANF: Lopez Canyon and San Francisquito Canyon. The range of this species does not extend north of the Mill Creek Summit Divide. Segment 7: Possible. There is a population in the Claremont Wilderness Park north of Claremont. Segment 8: Possible. Although there are no historical records of this species within the immediate vicinity of this segment, suitable habitat exists within the Puente/Chino Hills. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central and Southern Regions. The CNDDDB lists 2 extant occurrences of this species within the ANF: Lopez Canyon and San Francisquito Canyon. The range of this species does not extend north of the Mill Creek Summit Divide. In the Southern Region, an historical occurrence of this species occurs within 5 miles of the proposed Project within the Arroyo Seco Wash, south of the Devil's Gate Reservoir.
Ocellated Humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	CNPS 4.2, FSW	Riparian woodland openings within chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest communities; generally on gravelly soils within gullies. Elev. below 6,000 ft.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Present in the Central Region. The species was observed within the proposed Project immediately adjacent to access road 2N23. Another location was found under the powerline corridor in the vicinity of Big Tujunga Creek just west of Shortcut Station. Segment 7: Possible. The Consortium of California Herbaria lists several occurrences of this subspecies in the southern foothills of the San Gabriel Mountains. Segment 8: Possible. Although there are no historical records for this subspecies in the Puente/Chino Hills, suitable habitat is present. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Present in the Southern Region. This subspecies was observed within the proposed Project in an intermittent creek

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
		March-July.	channel just to the west of the Angeles Crest fire station. Likely in the Central Region. This subspecies was observed less than 400 ft outside of the ANF boundary within the proposed Project in an intermittent creek channel just to the west of the Angeles Crest fire station. Suitable riparian habitat occurs throughout the alignment on the ANF.
Orcutt's linanthus <i>Linanthus orcuttii</i>	CNPS 1B.3	Chaparral, lower montane coniferous forest, and pinyon and juniper woodland communities. Elev. 3,002-7,038 ft. May-June.	<p>Segment 4: Unlikely. This segment lies outside the known range of this species.</p> <p>Segment 5: Unlikely. There are no reported occurrences on the northern desert slopes of the San Gabriel Mountains.</p> <p>Segment 6: Unlikely. Although suitable habitat is present, the species is known from only a single historical occurrence in Los Angeles County, which is presumed to be extirpated. There are no reported occurrences on the northern desert slopes of the San Gabriel Mountains.</p> <p>Segment 7: Unlikely. Although suitable habitat is present, the species is known from only a single historical occurrence in Los Angeles County, which is presumed to be extirpated.</p> <p>Segment 8: Unlikely. Although suitable habitat is present, the species is known from only a single historical occurrence in Los Angeles County, which is presumed to be extirpated.</p> <p>Segment 10: Unlikely. This segment lies outside the known range of this species.</p> <p>Segment 11: Unlikely. Although suitable habitat is present, the species is known from only a single historical occurrence in Los Angeles County, which is presumed to be extirpated. There are no reported occurrences on the northern desert slopes of the San Gabriel Mountains.</p>
Pale-yellow layia <i>Layia heterotricha</i>	CNPS 1B.1	Cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland habitats on alkaline and clay soils. Elev. 984-5,594 ft. March-June.	<p>Segment 4: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 5: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 6: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 7: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 8: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 10: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p> <p>Segment 11: Unlikely. This species is known from a single historical occurrence in the Antelope Valley.</p>
Palmer's mariposa lily <i>Calochortus palmeri</i> var. <i>palmeri</i>	CNPS 1B.2, FSS	Wet meadows and seeps in lower montane coniferous forest and chaparral habitats. Elev. 3,281-7,841 ft. May-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. A population record for this variety occurs within 5 miles of the proposed Project in the vicinity of Devil's Canyon.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. Suitable habitat for this variety is present, and a population is documented within 10 miles of the proposed Project.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Parish's checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	CNPS 1B	Chaparral and montane conifer habitat between 4,000 and 7,500 feet. It is disturbance oriented and is found after fire and on grazed land. June-August.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Although suitable habitat is present in the Central Region, there are no records of this subspecies in the San Gabriel Mountains.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. Although suitable habitat is present in the Central Region, there are no records of this subspecies in the San Gabriel Mountains.</p>
Parish's gooseberry <i>Ribes divaricatum</i> var. <i>parishii</i>	CNPS 1A	Riparian woodland habitats. Elev. 200-1,000 ft. February-March.	<p>Segment 4: Unlikely. Outside of the known range of the species. Variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 5: Unlikely. Outside of the known range of the species. Variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 6: Unlikely. Outside of the known range of the species. Variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 7: Unlikely. A historical CNDDDB record of this variety occurs within the proposed Project in the Whittier Narrows area. However, this variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 8: Unlikely. A historical CNDDDB record of this variety occurs within the proposed Project in the Whittier Narrows area. However, this variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 10: Unlikely. Outside of the known range of the species. Variety is presumed extinct and has not been seen since 1980.</p> <p>Segment 11: Unlikely. This variety is known from only 5 historical populations, none of which occur near this segment. This variety is presumed extinct and has not been seen since 1980.</p>
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	CNPS 3.2, FSS	Sandy or rocky openings within chaparral and coastal scrub communities. Elev. 120-6,000 ft. April-June.	<p>Segment 4: Unlikely. There are no records of this variety north of the San Gabriel Mountains. A historical population in the vicinity of Lancaster was likely misidentified.</p> <p>Segment 5: Unlikely. There are no records of this variety north of the San Gabriel Mountains. A historic population in the vicinity of Lancaster was likely misidentified.</p> <p>Segment 6: Possible in the Central Region. The CNDDDB reports an occurrence of this variety in the vicinity of Mt. Lowe. The range of this plant does not extend north of the Mill Creek Summit Divide. Unlikely in the Northern Region. There are no records of this variety north of the San Gabriel Mountains. A historic population in the vicinity of Lancaster was likely misidentified.</p> <p>Segment 7: Possible. Suitable habitat occurs in the foothills of the San Gabriel mountains north of Duarte and within the San Gabriel River Wash where a historical population is recorded.</p> <p>Segment 8: Possible. Suitable habitat occurs in the Puente/Chino Hills and surrounding areas.</p> <p>Segment 10: Unlikely. There are no records of this variety north of the San Gabriel Mountains. A historic population in the vicinity of Lancaster was likely misidentified.</p> <p>Segment 11: Possible in the Central and Southern Regions. The CNDDDB reports an occurrence of this variety in the vicinity of Mt. Lowe. The range of this plant does not extend north of the Mill Creek Summit Divide. Suitable habitat occurs in the foothills of the San Gabriel mountains north of Altadena and La Cañada Flintridge. A historical population occurs in the Arroyo Seco Wash. Unlikely in the Northern Region. There are no records of this variety north of the San Gabriel Mountains. A historic population in the vicinity of Lancaster was likely misidentified.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Peirson's lupine <i>Lupinus peirsonii</i>	CNPS 1B.3, FSS	Gravelly soils within Joshua tree woodland, lower and upper montane coniferous forest, and pinyon and juniper woodland communities. Elev. 3,200- 8,200 ft. April-May	Segment 4: Unlikely. This segment lies outside the known range of this species. Segment 5: Possible. There are known occurrences of this species in the vicinity of Rock Creek. Segment 6: Likely in the Central Region. There is an occurrence record of Peirson's lupine within Segment 6 in the vicinity of Alder Creek. Possible in the Northern Region. There are known occurrences of this species in the vicinity of Rock Creek. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. This segment lies outside the known range of this species. Segment 11: Possible in the Northern and Central Regions. There are known occurrences of this species in the vicinity of Rock Creek. The Consortium of California Herbaria lists 26 occurrences of this species within the San Gabriel Mountains.
Peirson's morning-glory <i>Calystegia peirsonii</i>	CNPS 4.2	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats. Elev. 98-4,921 ft. May-June.	Segment 4: Possible. There are several reported occurrences in the Antelope Valley. Segment 5: Present. This species was detected within 200 feet of several tower locations along this alignment. Additional records exist for Palmdale and Big Rock Creek. Segment 6: Present. This species was detected under structure M20-T3 located near milepost 20.9. This structure is scheduled for replacement. In addition, there is a recorded population of the species in Soledad Canyon Wash south of I-14. Additional records exist for Palmdale and Big Rock Creek. The Consortium of Herbaria reports a population in Soledad Canyon on the northern slopes of the San Gabriel Mountains. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Possible. There are several reported occurrences in the Antelope Valley. Segment 11: Possible in the Northern and Central Regions. There is a recorded population of the species in Soledad Canyon Wash south of I-14. Additional records exist for Palmdale and Big Rock Creek. The range of this species does not extend south of the Mill Creek Summit Divide.
Peirson's spring beauty <i>Claytonia lanceolata</i> var. <i>peirsonii</i>	CNPS 1B.1, FSS	Subalpine and upper montane coniferous forests on scree-covered slopes. Elev. 7,000-9,000ft. May-June.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Outside of known distribution and elevational range for this species. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Outside of known distribution and elevational range for this species.
Piute Mountains jewel-flower <i>Streptanthus cordatus</i> var. <i>piutensis</i>	CNPS 1B.2	Broadleaved Upland Forest, Closed-cone Coniferous forest, and Pinyon and Juniper Woodland habitats in clay or metamorphic soils. Elev. 3,593-5,692 ft. May-July.	Segment 4: Unlikely. This variety is known only from the southern Sierra Nevada and Tehachapi Mountains. Suitable habitat is limited to Juniper Woodland and Scrub. Segment 5: Unlikely. This segment lies outside the known range of this variety. Segment 6: Unlikely. This segment lies outside the known range of this variety. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. This variety is known only from the southern Sierra Nevada and Tehachapi Mountains. No suitable habitat is present. Segment 11: Unlikely. This segment lies outside the known range of this variety.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Piute Mountains navarretia <i>Navarretia setiloba</i>	CNPS 1B.1	Cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland habitats in clay or gravelly loam soils. Elev. 1,000-6,890 ft. May-June.	<p>Segment 4: Unlikely. This species is not known to occur south of the Tehachapi Mountains. Potentially suitable habitats for this species in this segment include Mojave Juniper Woodland and Scrub and California Annual Grassland.</p> <p>Segment 5: Unlikely. This species is not known to occur south of the Tehachapi Mountains. A range extension this far south into the Antelope Valley is not likely.</p> <p>Segment 6: Unlikely. This species is not known to occur south of the Tehachapi Mountains. A range extension this far south into the Antelope Valley is not likely.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. This species is not known to occur south of the Tehachapi Mountains. Desert Bunchgrass Grassland may provide suitable habitat for this species.</p> <p>Segment 11: Unlikely. This species is not known to occur south of the Tehachapi Mountains. A range extension this far south into the Antelope Valley is not likely.</p>
Plummer's mariposa lily <i>Calochortus plummerae</i>	CNPS 1B.2, FSS	Granitic rock outcrops or rocky soils of granitic origin, in lower montane coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland, and chaparral habitats. Elev. 328-5,577 ft. May-July	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. The species was observed on Segment 6 along Rincon Red Box Road, north of Spring Camp, along Lynx Gulch Road just south of Iron Mountain, along the Alder Creek access road, and at Upper Big Tujunga Canyon.</p> <p>Segment 7: Possible. Suitable habitat for this species is present in the foothills of the San Gabriel Mountains north of Duarte.</p> <p>Segment 8: Likely: Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands. Suitable habitat for this species is present in the Puente/Chino Hills and surrounding areas.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Likely in the Central Region. Two records occur directly adjacent to the proposed Project near Long Canyon off of Highway 2, and near Mt. Lowe. Possible in the Southern Region. Suitable habitat for this species is present in the foothills of the San Gabriel Mountains north of Altadena and La Cañada Flintridge.</p>
Pygmy alpinegold <i>Hulsea vestita</i> ssp. <i>pygmaea</i>	CNPS 1B.3, FSS	Alpine boulder and rock field, subalpine coniferous forest on granitic, gravelly soils. Elev. 9,300-12,795 ft. June-October.	<p>Segment 4: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 5: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 6: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 7: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 8: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 10: Unlikely. Outside of known distribution and elevational range for this species.</p> <p>Segment 11: Unlikely. Outside of known distribution and elevational range for this species.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Pygmy poppy <i>Canbya candida</i>	CNPS 4.2, FSS	Joshua tree woodland, Mojavean desert scrub, or pinyon and juniper woodland habitats with gravelly, granitic, or sandy soils. Elev. 1,968-4,790 ft. March-June.	<p>Segment 4: Possible. Suitable habitat for this species is present. In addition, there are several records in the vicinity of Edwards Air Force Base.</p> <p>Segment 5: Possible. Suitable habitat for this species is present, and there are several records in the vicinity of Lancaster and an occurrence 3 miles east of Vincent.</p> <p>Segment 6: Possible in the Northern and Central Regions. Suitable habitat for this species is present. There is a recorded occurrence 3 miles east of Vincent. The range of this species does not extend south of the Mill Creek Summit Divide.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Possible. Suitable habitat for this species is present, and there are several records in the vicinity of Edwards Air Force Base.</p> <p>Segment 11: Possible in the Northern and Central Regions. Suitable habitat for this species is present. There is a recorded occurrence 3 miles east of Vincent. The range of this species does not extend south of the Mill Creek Summit Divide.</p>
Rayless ragwort <i>Senecio aphanactis</i>	CNPS 2.2	Dry alkaline flats within chaparral, cismontane woodland, and coastal scrub communities. Elev. 50-2,624 ft. January-April.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. Outside of the known range of the species.</p> <p>Segment 7: Unlikely. The habitat conditions are marginal for this species and are either highly developed or disturbed. It is not known from foothills of the San Gabriel Mountains.</p> <p>Segment 8: Possible. A recorded population of this species occurs in Puddingstone Canyon, in the Frank G. Bonelli Regional Park. Suitable habitat exists in the Puente/Chino Hills.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. The habitat conditions are marginal for this species and are either highly developed or disturbed. It is not known from foothills of the San Gabriel Mountains.</p>
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	CNPS 1B.2	Chaparral and coastal scrub habitats. Elev. below 2,903 ft. January-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. A reported population occurs between Segment 6 and 11 in the foothills of the San Gabriel Mountains north of Sierra Madre.</p> <p>Segment 7: Possible. The Consortium of California Herbaria lists a historical occurrence of this variety just east of this segment in the vicinity of Irwindale, adjacent to Interstate 210.</p> <p>Segment 8: Likely: Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands. The CNDDDB lists an occurrence of this variety north of this segment in the vicinity of Highway 60, south of Montclair.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central and Southern Regions. A reported population occurs between Segment 6 and 11 in the foothills of the San Gabriel Mountains north of Sierra Madre. The Consortium of California Herbaria lists a historical occurrence of this variety just east of this segment in the vicinity of Altadena off of North Craig Avenue.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Rock Creek broomrape <i>Orobanche valida</i> ssp. <i>valida</i>	CNPS 1B.2, FSS	Granitic soils within chaparral and pinyon and juniper Woodland communities. Elev. 4,000-7,000 ft. May-July.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Currently known from only 3 populations, the closest of which occurs over 10 miles to the east in the Mt. Baldy quadrangle. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Currently known from only 3 populations, the closest of which occurs over 10 miles to the east in the Mt. Baldy quadrangle.
Rock monardella <i>Monardella viridis</i> ssp. <i>saxicola</i>	CNPS 4.2, FSS	Dry rocky slopes within chaparral and Lower Montane Coniferous Forest communities. 1,600-6,000 ft. June-September.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. The subspecies is endemic to the San Gabriel Mountains, and the Consortium of California Herbaria lists 13 records of this subspecies within the area. Segment 7: Possible. This subspecies is endemic to the San Gabriel Mountains. Suitable habitat for this subspecies occurs in the foothills of the San Gabriel Mountains north of Duarte. Segment 8: Unlikely. This segment lies outside the known range of this subspecies, which is restricted to the San Gabriel Mountains. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central and Southern Regions. The subspecies is endemic to the San Gabriel Mountains north of Altadena and La Cañada Flintridge, and the Consortium of California Herbaria lists 13 records of this subspecies within the area. Suitable habitat for this subspecies occurs in the foothills of the San Gabriel Mountains
Round-leaved filaree <i>Erodium macrophylla</i> (= <i>California macrophylla</i>)	CNPS 1B.1	On clay soils in valley and foothill grasslands or open cismontane woodland habitats. Elev. 49-3,937 ft. March-May.	Segment 4: Unlikely. The grassland habitats occurring in this segment provide marginal habitat for this species. There are no historical occurrences within the Mojave desert region. Segment 5: Unlikely. The grassland habitats occurring in this segment provide marginal habitat for this species. There are no historical occurrences within the Mojave desert region. Segment 6: Unlikely: The grassland habitats occurring in this segment provide marginal habitat for this species. There are no historical occurrences within the Mojave desert region. Unlikely. Only marginal habitat is present within the proposed Project. The only record of this species in the San Gabriel Mountains is in the vicinity of Elizabeth Lake. Segment 7: Unlikely. Only marginal habitat is present and is either highly developed or disturbed. This species is not known to occur in the foothills of the San Gabriel Mountains. Segment 8: Possible: Suitable habitat occurs in the Puente/Chino Hills and surrounding areas. Segment 10: Unlikely. The grassland habitats occurring in this segment provide marginal habitat for this species. There are no historical occurrences within the Mojave desert region. Segment 11: Unlikely. The grassland habitats occurring in this segment provide marginal habitat for this species. There are no historical occurrences within the Mojave desert region. Only marginal habitat is present within the Central Region. The only record of this species in the San Gabriel Mountains is in the vicinity of Elizabeth Lake. Only marginal habitat is present in the Southern Region and area is either highly developed or disturbed. This species is not known to occur in the foothills of the San Gabriel Mountains.

3.4 BIOLOGICAL RESOURCES

Tehachapi Renewable Transmission Project

Name	Status*	Habitat	Occurrence Within Project Area
Salt spring checkerbloom <i>Sidalcea neomexicana</i>	CNPS 2.2	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playa habitats in alkaline and mesic soils. Elev. 49-5,020 ft. March-June.	<p>Segment 4: Unlikely. There are no recorded occurrences of the species in the Antelope Valley or the northern San Gabriel Mountains.</p> <p>Segment 5: Unlikely. There are no recorded occurrences of the species in the Antelope Valley or the northern San Gabriel Mountains.</p> <p>Segment 6: Unlikely. There are no recorded occurrences of the species in the Antelope Valley or the northern San Gabriel Mountains. Although suitable habitat is present in the Central Region, there are no records of this subspecies in the San Gabriel Mountains.</p> <p>Segment 7: Possible. Suitable habitat exists within the in the Whittier Narrows Rec. Area.</p> <p>Segment 8: Possible. A population record for this species occurs within the proposed Project in the vicinity of Chino Creek just east of Highway 71.</p> <p>Segment 10: Unlikely. There are no recorded occurrences of the species in the Antelope Valley or the northern San Gabriel Mountains.</p> <p>Segment 11: Unlikely. Although suitable habitat is present in the Central Region, there are no recorded occurrences of the species in the Antelope Valley or the San Gabriel Mountains. In the Southern Region, habitat conditions are marginal for this species and are either highly developed or disturbed.</p>
San Bernardino aster <i>Aster bernardinus</i> (= <i>Symphotrichum defoliatum</i>)	CNPS 1B.2, FSS	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland habitats within vernal mesic areas near ditches, and streams. Elev. 7-6,693 ft. July-November.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible in the Central Region. A population of this species is reported to occur on the Prairie Fork of the San Gabriel River within the ANF.</p> <p>Segment 7: Possible. Suitable habitat for this species exists in the Whittier Narrows area and along the San Gabriel River channel.</p> <p>Segment 8: Possible. Two records occur within 5 miles of the proposed Project between Pomona and Ontario.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. A population of this species is reported to occur on the Prairie Fork of the San Gabriel River within the ANF. Unlikely in the Northern and Southern Regions. Only marginal habitat for this species is present in the Los Angeles Basin and is either highly developed or disturbed.</p>
San Bernardino grass-of-Parnassus <i>Parnassia cirrata</i> (= <i>Parnassia cirrata</i> var. <i>cirrata</i>)	CNPS 1B.3, FSS	Streams and mesic sites within lower and upper montane coniferous forests and meadows and seeps. Elev. 4,100-8,000 ft. August-September.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Possible. There are records of this species along the San Gabriel River and within Alder Gulch.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible. There are records of this species along the San Gabriel River and within Alder Gulch.</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>Fernandina</i>	CNPS 1B.1, FC, SE, FSS	Sandy or rocky openings within chaparral and coastal scrub communities. Elev. 490-4,000 ft. April-June.	Segment 4: Unlikely. This segment lies outside the known range of this variety. Segment 5: Possible. Suitable habitat may be present at the base of the San Gabriel Mountains. A historical population occurs 5 miles to the west in the vicinity of Elizabeth Lake. Segment 6: Possible in the Northern and Central Regions. Suitable habitat may be present at the base of the San Gabriel Mountains. A historical occurrence occurs 5 miles to the west in the vicinity of Elizabeth Lake. Segment 7: Possible. This variety is currently known from only 2 populations. However, suitable habitat exists within the proposed Project on sandy soils within the San Gabriel River channel. Segment 8: Possible. This variety is currently known from only 2 populations. However, suitable habitat exists within the proposed Project on sandy soils within the Puente/Chino Hills. Segment 10: Unlikely. This segment lies outside the known range of this variety. Segment 11: Possible. Suitable habitat may be present at the base of the San Gabriel Mountains. A historical occurrence occurs 5 miles to the west in the vicinity of Elizabeth Lake.
San Gabriel bedstraw <i>Galium grande</i>	CNPS 1B.2, FSS	Open chaparral, oak woodland, or similar woodland communities including stands of Bigcone Fir. Elev. 3,000-6,000 ft. January-July.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Present in the Central Region. The species was observed immediately adjacent to the proposed Project along the Monrovia Canyon Truck Trail between White Saddle and Mt. Bliss. Suitable habitat also occurs along portions of Van Tassel Truck Trail and Sawpit Truck Trail. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. There are several records of this species within 5 miles of the proposed Project.
San Gabriel linanthus <i>Linanthus concinnus</i>	CNPS 1B.2, FSS	Dry rocky slopes within chaparral and montane coniferous forest communities. Elev. 5,000-9,200 ft. May-July.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. A population of this species is reported to occur between Segment 6 and 11 in the vicinity of Mt. Lowe. This occurrence is within 5 miles of the proposed Project. There are 38 records of this species in the San Gabriel Mountains. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. A population of this species reported to occur between Segment 6 and 11 in the vicinity of Mt. Lowe. This occurrence is within 5 miles of the proposed Project. There are 38 records of this species in the San Gabriel Mountains.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
San Gabriel manzanita <i>Arctostaphylos gabrielensis</i>	CNPS 1B.2, FSS	Rocky chaparral habitats. Elev. 5,000 ft. March.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. This species was observed within the proposed Project in the vicinity of Mill Creek Summit Divide. Suitable habitat also occurs along access roads from Mill Creek Summit to Big Tujunga Creek.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Present in the Central Region. This species occurs in close proximity to Mill Creek Summit Divide, the type locality of this species and was detected within 200 feet of tower locations 30, 31, and 33 of this alignment. Suitable habitat occurs along 4N24 on either side of Mount Gleason Road.</p>
San Gabriel Mountains dudleya <i>Dudleya densiflora</i>	CNPS 1B.1, FSS	Chaparral, coastal scrub, and lower montane coniferous forest habitats on granitic cliffs and canyon walls. Elev. 800-2,000 ft. March-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. This species was detected along the road cut of Van Tassel Truck Trail during 2008 surveys. This is a significant population as the species was previously only known from Fish Canyon.</p> <p>Segment 7: Possible. This segment is adjacent to Fish Canyon, where the species is known to occur.</p> <p>Segment 8: Unlikely. This segment lies outside the known range of this species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. There are no records of the species within 5 miles of the proposed Project. The species is known only from the foothill canyons north of Azusa.</p>
San Gabriel Mountains sunflower <i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	CNPS 4.3, FSS	Rocky habitats within lower and upper montane coniferous forest communities. Elev. 4,000-8,200 ft. May-July.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. A population record for this subspecies occurs between Segment 6 and 11 on Mt. Gleason Rd.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. A population record for this subspecies occurs between Segment 6 and 11 on Mt. Gleason Rd.</p>
San Gabriel oak <i>Quercus durata</i> var. <i>gabrielensis</i>	CNPS 4.2	Granitic soils within chaparral and Cismontane Woodland communities. Elev. 1,476-3,281 ft. April-May.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Present in the Central Region. This variety is endemic to the San Gabriel Mountains and was observed within stands of Mixed Chaparral and Scrub Oak Chaparral throughout the southern half of this segment.</p> <p>Segment 7: Possible. Suitable habitat for this species occurs in the foothills of the San Gabriel Mountains north of Duarte.</p> <p>Segment 8: Unlikely. This segment lies outside the known range of this subspecies, which is restricted to the San Gabriel Mountains.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Present in the Central Region. This variety is endemic to the San Gabriel Mountains and was observed within stands of Mixed Chaparral and Scrub Oak Chaparral throughout the southern half of this area. Possible in the Southern Region. This subspecies is endemic to the San Gabriel Mountains. Suitable habitat for this subspecies occurs in the foothills of the San</p>

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
San Gabriel River dudleya <i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	CNPS 1B.2, FSS	Granitic slopes in chaparral communities. Elev. 900-1,300 ft. April-July.	Gabriel Mountains north of Altadena and La Cañada Flintridge. Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible. This subspecies is primarily known from Fish Canyon in the southern San Gabriel Mountain foothills. This segment is adjacent to Fish Canyon. Segment 7: Possible. The portions of this segment within the foothills of the San Gabriel Mountains are in close proximity to Fish Canyon, where the plant is known to occur. Segment 8: Unlikely. This segment lies outside the known range of this subspecies. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Present. This subspecies was detected along the road cut of Sawpit Truck Trail during 2008 surveys. Unlikely in the Northern and Southern Regions as they are outside of the known range of the species.
Short-joint beavertail <i>Opuntia basilaris</i> var. <i>brachyclada</i>	CNPS 1B.2, FSS	Open chaparral, Juniper Woodland, or similar woodland communities. Elev. 1,394-5,900 ft. April-June.	Segment 4: Unlikely. This variety is known only from the northern desert slopes of the San Gabriel and San Bernardino Mountains. Segment 5: Likely. A recorded population occurs within the proposed Project alignment of this Segment. Segment 6: Present in the Central Region. This variety was detected within 200 feet of several tower locations along the alignment. Any access road from Vincent to Mill Creek Summit and Mount Gleason areas should be considered suitable habitat. Likely in the Northern Region. A recorded population occurs within the proposed Project alignment of this Segment. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. This variety is known only from the northern desert slopes of the San Gabriel and San Bernardino Mountains. Segment 11: Present in the Central Region. This variety was detected along the road cut of 4N24 just south of Aliso Canyon Road during 2008 surveys. Any access road from Vincent to Mill Creek Summit and Mount Gleason areas should be considered suitable habitat. Likely in the Northern Region. A recorded population occurs within the proposed Project alignment of this Segment.
Slender mariposa lily <i>Calochortus clavatus</i> var. <i>gracilis</i>	CNPS 1B.2, FSS	Valley and foothill grasslands, chaparral, or coastal scrub habitats; often in shaded canyons. Elev. 1,181-3,281 ft. March-June.	Segment 4: Unlikely. This segment lies outside the known range of this variety, which is endemic to the Transverse Range. Segment 5: Unlikely. This variety is endemic to the Transverse Range; however, there are no occurrences on the northern desert slopes of the San Gabriel Mountains. Segment 6: Possible in the Central Region. A population record for this variety occurs within 5 miles of the proposed Project in the vicinity of Cogswell Reservoir. Unlikely in the Northern Region. This variety is endemic to the Transverse Range; however, there are no occurrences on the northern desert slopes of the San Gabriel Mountains. Segment 7: Possible. There are numerous historical reports of this variety within the foothills of the San Gabriel Mountains. Segment 8: Possible. Suitable habitat for this variety is present within the Puente/Chino Hills and surrounding areas. Segment 10: Unlikely. This segment lies outside the known range of this variety, which is endemic to the Transverse Range. Segment 11: Possible in the Central and Southern Regions. A population record for this variety occurs within 10 miles of the proposed Project and suitable habitat is present. There are numerous reports of the plant within the foothills of the San Gabriel Mountains. Unlikely in the Northern Region. This variety is endemic to the Transverse Range, however, there are no occurrences on the northern desert slopes of the San Gabriel Mountains.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Slender silver-moss <i>Anomobryum julaceum</i>	CNPS 2.2	Rocky areas and talus slopes within lower montane coniferous forests, or areas within Coulter pine stands. Any road cut areas should be considered suitable habitat. Elev. 328-3,281.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. Suitable habitats include rocky areas and talus slopes within Bigcone Douglas Fir-Canyon Live Oak Forest and Coulter Pine Forest. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. Suitable habitats include rocky areas and talus slopes within Bigcone Douglas Fir-Canyon Live Oak Forest and Coulter Pine Forest.
Slender-horned spineflower <i>Dodecahema leptoceras</i>	CNPS 1B.1, SE, FE	Sandy beaches and floodplain terraces associated with alluvial fan scrub vegetation within chaparral, cismontane woodland, and coastal scrub communities. Associated with elevation terraces. Elev. 656-2,500 ft. April-June.	Segment 4: Unlikely. Outside of the known range of the species and no suitable habitat exists. Segment 5: Unlikely. Outside of the known range of the species and no suitable habitat exists. Segment 6: Possible in the Central Region. There is suitable habitat for this species in the southern foothills of the San Gabriel Mountains. Segment 7: Possible. A historical population of this species occurs just west of the proposed Project in the foothills of the San Gabriel Mountains north of Monrovia Segment 8: Possible. Although there are no historical records of this species within the immediate vicinity of this segment, sandy substrates in the Puente/Chino Hills may offer suitable habitat. Segment 10: Unlikely. Outside of the known range of the species and no suitable habitat exists. Segment 11: Possible in the Central and Southern Regions. A historical population of this species occurs where this segment crosses the Rubio wash. However, the population is presumed extirpated due to urbanization and streambed modification for flood control.
Smooth tarplant <i>Hemizonia pungens</i> ssp. <i>laevis</i> (= <i>Centromadia pungens</i> ssp. <i>laevis</i>)	CNPS 1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland habitats in alkaline soils. Elev. below 1,575 ft. April-September.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Outside of the known range of the species. Segment 7: Unlikely. There are no records of this subspecies occurring within Los Angeles County. In addition, habitat conditions along this segment are marginal. Segment 8: Possible. Although there are no records of this subspecies within Los Angeles County, there are several populations in San Bernardino and Riverside counties adjacent to the Los Angeles County border. There is suitable habitat within the Puente/Chino Hills area. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. There are no records of this subspecies occurring within Los Angeles County. In addition, habitat conditions along this segment are marginal.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Sonoran maiden fern <i>Thelypteris puberula</i> var. <i>sonorensis</i>	CNPS 2.2, FSS	Meadows and seeps within streams. Elev. 164-2,000 ft. January-September.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Possible in the Central Region. There are 3 reported populations of this variety within 5 miles of the proposed Project. The potential for occurrence is restricted to suitable habitats south of the Mill Creek Summit Divide. Segment 7: Possible. Suitable habitat for this species occurs in the foothills of the San Gabriel Mountains north of Duarte. Segment 8: Unlikely. All reported populations of this variety within Los Angeles County are from the Transverse Range. There are no records or data that indicate that this plant could occur within the Los Angeles Basin. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central and Southern Regions. There are 3 reported populations of this variety within 5 miles of the proposed Project. The potential for occurrence is restricted to suitable habitats south of the Mill Creek Summit Divide. Suitable habitat for this variety occurs in the foothills of the San Gabriel Mountains north of Altadena and La Cañada Flintridge.
Southern alpine buckwheat <i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	CNPS 1B.3, FSS	Alpine boulder and rock field, granitic/gravelly soils in subalpine coniferous forest. Elev. 8,530-11,480 ft. July-September.	Segment 4: Unlikely. Outside of known distribution and elevational range for this species. Segment 5: Unlikely. Outside of known distribution and elevational range for this species. Segment 6: Unlikely. Outside of known distribution and elevational range for this species. Segment 7: Unlikely. Outside of known distribution and elevational range for this species. Segment 8: Unlikely. Outside of known distribution and elevational range for this species. Segment 10: Unlikely. Outside of known distribution and elevational range for this species. Segment 11: Unlikely. Outside of known distribution and elevational range for this species.
Southern jewel-flower <i>Streptanthus campestris</i>	CNPS 1B.3, FSS	Chaparral, lower montane coniferous forest, rocky pinyon and juniper woodland. Elev. 2,950-7,550 ft. May-July.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Although suitable habitat is present in the Central Region, there are no records of this species in Los Angeles County. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Although suitable habitat is present in the Central Region, there are no records of this species in Los Angeles County.
Southern skullcap <i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	CNPS 1B.2, FSS	Mesic sites within chaparral, Cismontane Woodland, and Lower Montane Coniferous Forest Communities. Elev. 1,900-6,600 ft. June-August.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Although suitable habitat is present in the Central Region, there are no records of this subspecies in the San Gabriel Mountains. Segment 7: Unlikely. There is only 1 historical occurrence of this plant within Los Angeles County. Segment 8: Unlikely. There is only 1 historical occurrence of this plant within Los Angeles County. In addition, this segment is below the known lower elevation limit of the subspecies. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. Although suitable habitat is present, there are no records of this subspecies in the San Gabriel Mountains. There is only 1 historical occurrence of this plant within Los Angeles County.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Southern tarplant <i>Hemizonia parryi</i> ssp. <i>australis</i> (= <i>Centromadia parryi</i> ssp. <i>australis</i>)	CNPS 1B.1	Margins of marshes and swamps, vernal mesic sites within valley and foothill grassland, vernal pools, and coastal scrub. Elev. below 1,400 ft. May-November.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. Outside of the known range of the species. Segment 7: Possible. Suitable habitat for this subspecies exists in the Whittier Narrows area and any disturbed Coastal Sage Scrub habitat. Segment 8: Possible. Suitable habitat for this subspecies exists within the Whittier Narrows area and in the Puente/Chino Hills area. A historical population occurs just south of segment 8 on the southern slopes of the Chino Hills just north of Yorba Linda. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Southern Region. Suitable habitat may exist within any disturbed Coastal Sage Scrub communities.
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	CNPS 1B.1, SE, FT	Open mesic grasslands within chaparral, cismontane woodland, or coastal scrub communities, and is frequently associated with playas or vernal pools. Elev. 80-2,900 ft. March-June.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. The closest population of this species occurs greater than 5 miles away from the proposed Project. In addition, suitable grassland habitat for this species is not present within this segment. Segment 7: Unlikely. The nearest population of this species occurs greater than 5 miles away from the proposed Project. In addition, the grassland habitat along this segment is marginal for this species and is highly disturbed. Segment 8: Possible. Grassland communities within the Puente/Chino Hills area offer suitable habitat for this species, but only a small proportion of the available grassland within the alignment or alternatives is appropriately mesic with relatively level topography and a high proportion of native grasses. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. The closest population of this species occurs greater than 5 miles away from the proposed Project. In addition, suitable grassland habitat for this species is not present within this segment.
Transverse Range phacelia <i>Phacelia exilis</i>	CNPS 4.3, FSS	Meadows and seeps or sandy and gravelly areas within lower and upper montane coniferous forest communities. Elev. 3,608-8,858 ft. May-August.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Unlikely. The nearest recorded populations occur in the San Bernardino Mountains. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely: The nearest recorded populations occur in the San Bernardino Mountains.
Urn-flowered alumroot <i>Heuchera elegans</i>	CNPS 4.3, FSS	Rocky habitats within cismontane woodland and lower and upper montane coniferous forest communities. Elev. 3,700-8,500 ft. May-June.	Segment 4: Unlikely. Outside of the known range of the species. Segment 5: Unlikely. Outside of the known range of the species. Segment 6: Present in the Central Region. The species was observed immediately adjacent to the proposed Project along 4N18, just north of Monte Cristo Creek. Segment 7: Unlikely. Outside of the known range of the species. Segment 8: Unlikely. Outside of the known range of the species. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central Region. The Consortium of California Herbaria lists 55 occurrence records within the San Gabriel Mountains.

Table 3.4-6. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
White-bracted spineflower <i>Chorizanthe xanti</i> var. <i>leucotheca</i>	CNPS 1B.2	Mojavean desert scrub and pinyon and juniper woodland habitats. Elev. 984-3,937 ft. April-June.	<p>Segment 4: Unlikely. Although suitable habitat is present, there are no reports of this variety occurring north of the Transverse Range.</p> <p>Segment 5: Possible. There is a recorded occurrence of this variety just west of Segment 5 in the foothills of the San Gabriel Mountains.</p> <p>Segment 6: Possible in the Northern and Central Regions. There is a recorded occurrence of this variety just west of Segment 5 in the foothills of the San Gabriel Mountains. The CNDDDB reports a population just north of Palmdale in the northern foothills of the San Gabriel Mountains. The range of this variety does not extend south of the Mill Creek Summit Divide.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Although suitable habitat is present, there are no reports of this variety occurring north of the Transverse Range.</p> <p>Segment 11: Possible in the Northern and Central Regions. There is a recorded occurrence of this variety just west of Segment 5 in the foothills of the San Gabriel Mountains. The CNDDDB reports a population just north of Palmdale in the northern foothills of the San Gabriel Mountains. The range of this variety does not extend south of the Mill Creek Summit Divide.</p>
Woolly mountain-parsley <i>Oreonana vestita</i>	CNPS 1B.3, FSS	Subalpine and upper and lower montane coniferous forest. Elev. 5,300-11,480 ft. May-September.	<p>Segment 4: Unlikely. Outside of the known range of the species.</p> <p>Segment 5: Unlikely. Outside of the known range of the species.</p> <p>Segment 6: Unlikely. This segment is outside of known elevational range for this species.</p> <p>Segment 7: Unlikely. Outside of the known range of the species.</p> <p>Segment 8: Unlikely. Outside of the known range of the species.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Possible in the Central Region. Suitable habitat occurs near Mount Gleason.</p>

FE – Federally listed Endangered
FT – Federally listed Threatened
FC – Federal Candidate for listing
SE – California-listed Endangered
ST – California-listed Threatened
SR – California-listed Rare

FSS – USDA Forest Service Sensitive Species
FSW – USDA Forest Service Watch List
CNPS 1A – Presumed extinct in California
CNPS 1B – Rare or endangered in California and elsewhere
CNPS 2 – Rare or endangered in California, more common elsewhere
CNPS 3 – More information needed (Review List)

CNPS 4 – Limited Distribution (Watch List)
0.1 = Seriously threatened in California (over 80% of occurrences threatened/ high degree and immediacy of threat)
0.2 = Fairly threatened in California (20-80% occurrences threatened)
0.3 = Not very threatened in California (<20% of occurrences threatened or no current threats known)

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
INVERTEBRATES			
Delhi Sands Flower-Loving Fly (<i>Rhaphiomidas terminatus abdominalis</i>)	FE	Endemic to the Colton Dunes. Inhabits areas with Delhi soil series.	<p>Segment 4: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 5: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 6: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 7: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 8: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 10: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 11: Unlikely. No suitable habitat is present within the project area</p>
Quino Checkerspot Butterfly (<i>Euphydryas editha quino</i>)	FE	Grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodland, and semi-desert scrub that support native species of plantain, the butterfly's primary larval host plant. This checkerspot can also be found at the lower edge of the chaparral, in desert canyons, and in canyon washes.	<p>Segment 4: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 5: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 6: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 7: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 8: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 10: Unlikely. No suitable habitat is present within the project area</p> <p>Segment 11: Unlikely. No suitable habitat is present within the project area</p>
Riversidian fairy shrimp (<i>Streptocephalus wooltoni</i>)	FE	Restricted to deep vernal pools and ponds with chemistry and temperature conditions specific to non-marine and non-riverine waters. All known vernal pool habitat lies within annual grasslands, which may be interspersed with chaparral or coastal sage scrub vegetation.	<p>Segment 4: Unlikely. No vernal pools were found within the project area</p> <p>Segment 5: Unlikely. No vernal pools were found within the project area</p> <p>Segment 6: Unlikely. No vernal pools were found within the project area</p> <p>Segment 7: Unlikely. No vernal pools were found within the project area</p> <p>Segment 8: Unlikely. No vernal pools were found within the project area</p> <p>Segment 10: Unlikely. No vernal pools were found within the project area</p> <p>Segment 11: Unlikely. No vernal pools were found within the project area</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
FISH			
Arroyo Chub <i>Gila orcuttii</i>	FSS, CSSC	Occur in slow-moving or backwater sections of warm to cool streams with mud or sand substrates. Spawning occurs in pools or in quiet edge waters.	<p>Segment 4: Unlikely. Low suitability habitat is present</p> <p>Segment 5: Unlikely. Low suitability habitat is present</p> <p>Segment 6: Present in the Central Region; Detected in West Fork of the San Gabriel River. Unlikely in the Northern Region; Low suitability habitat is present.</p> <p>Segment 7: Unlikely. Habitat is not suitable and location is outside of the known range for this species.</p> <p>Segment 8: Possible under Alternative 4 only; Known from portions of the Santa Ana River. Aliso Creek and unnamed tributaries in this segment drain into the Santa Ana River.</p> <p>Segment 10: Unlikely. Low suitability habitat is present</p> <p>Segment 11: Present in the Central Region; Although not detected during recent surveys conducted by CDFG, this species is known to occur and suitable habitat occurs along portions of Big Tujunga Creek in the Project area (J. O'Brien, Associate Fisheries Biologist, CDFG. Pers. comm.) Unlikely in the Northern and Southern Regions; Low suitability habitat is present in the north, however, in the south habitat is not suitable and location is outside of the known range for this species.</p>
Santa Ana Speckled Dace <i>Rhinichthys osculus</i>	FSS, CSSC	Inhabit various stream and channel types, small springs, brooks, and pools in intermittent streams and perennial rivers.	<p>Segment 4: Unlikely. Outside of the known range.</p> <p>Segment 5: Unlikely. Outside of the known range.</p> <p>Segment 6: Present. Detected in West Fork and Upper West Fork of the San Gabriel River. Unlikely in the Northern Region; Outside of the known range.</p> <p>Segment 7: Unlikely. Outside of the known range.</p> <p>Segment 8: Possible under Alternative 4 only; Known from portions of the Santa Ana River. Aliso Creek and unnamed tributaries in this segment drain into the Santa Ana River.</p> <p>Segment 10: Unlikely. Outside of the known range.</p> <p>Segment 11: Present. Although not detected during recent surveys conducted by CDFG, this species is known to occur and suitable habitat occurs along portions of Big Tujunga Creek in the Project area Unlikely in the Northern and Southern Regions; Outside of the known range.</p>
Santa Ana Sucker <i>Catostomus santaanae</i>	FT, CSSC	Inhabit small, shallow streams and rivers; typically prefer coarse substrates consisting of gravel, rubble, and boulders, but will occur in areas with sandy or muddy substrates.	<p>Segment 4: Unlikely. Outside of the known range.</p> <p>Segment 5: Unlikely. Outside of the known range.</p> <p>Segment 6: Present. Known to occur along portions of the west fork of the San Gabriel east of Cogswell Dam. Also known from Big Tujunga Creek downstream of the Reservoir. Unlikely in the Northern Region; Outside of the known range.</p> <p>Segment 7: Unlikely. Outside of the known range.</p> <p>Segment 8: Possible under Alternative 4 only; Known from portions of the Santa Ana River. Aliso Creek and unnamed tributaries in this segment drain into the Santa Ana River.</p> <p>Segment 10: Unlikely. Outside of the known range.</p> <p>Segment 11: Present in the Central Region; Known to occur along portions of Big Tujunga Creek downstream of Big Tujunga Dam. This species was introduced into the Santa Clara River system (Moyle 1976; Swift et al. 1993). Unlikely in the Northern and Southern Regions; Outside of the known range.</p> <p>CRITICAL HABITAT IS DESIGNATED FOR THIS SPECIES ALONG THE WEST FORK OF THE SAN GABRIEL RIVER DOWNSTREAM OF COGSWELL DAM AND BIG TUJUNGA CANYON DOWNSTREAM OF BIG TUJUNGA DAM.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Unarmored Threespine Stickleback <i>Gasterosteus aculeatus williamsoni</i>	FE, SE, CDFG FP	Prefer quiet water bodies with abundant aquatic vegetation, backwaters, and stream channel margins where water flow velocities are low; require clear waters for feeding.	<p>Segment 4: Unlikely. Outside of the known range of this species.</p> <p>Segment 5: Unlikely. Outside of the known range of this species.</p> <p>Segment 6: Unlikely. In the Central Region, this subspecies is restricted to the Upper Santa Clara River and its watershed along stretches of Soledad Canyon, San Francisquito Canyon, Bouquet Creek, and Escondido Canyon in Los Angeles County. The Northern Regions is outside of the known range for this species.</p> <p>Segment 7: Unlikely. Outside of the known range of this species.</p> <p>Segment 8: Unlikely. Outside of the known range of this species.</p> <p>Segment 10: Unlikely. Outside of the known range of this species.</p> <p>Segment 11: Unlikely. In the Central Region, this subspecies is restricted to the Upper Santa Clara River and its watershed along stretches of Soledad Canyon, San Francisquito Canyon, Bouquet Creek, and Escondido Canyon in Los Angeles County. Northern and Southern Regions are Outside of the known range of this species.</p>
AMPHIBIANS			
Arroyo Toad <i>Bufo californicus</i>	FE, CSSC	Prefers sandy arroyos and drainage bottoms in 3 rd - to greater-order streams with open riparian vegetation in inland valleys and foothills; also may use flooded agricultural fields and irrigation ditches.	<p>Segment 4: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Unlikely. Although potential habitat exists in the Amargosa Creek system, this area lies outside the known range of the species. Not detected during focused surveys conducted in 2006 or reconnaissance surveys conducted in 2007.</p> <p>Segment 6: Present in the Central Region only; This species has been detected in Alder Creek, Mill Creek, Upper Big Tujunga Creek, and Lynx Gulch, and suitable habitat is present in several other unnamed drainages Possible in the Northern Region; Potential breeding habitat exists in Kentucky Wash, north of the Vincent Substation.</p> <p>Segment 7: Unlikely. Marginal habitat is present at the San Gabriel River. Habitat along this reach of the river is highly disturbed and degraded.</p> <p>Segment 8: Unlikely. Marginal habitat is present at the San Gabriel River.</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 11: Likely in the Central Region only; High quality habitat is present in Big Tujunga Creek, and occurrence records exist from the vicinity. Suitable habitat is present in several other unnamed drainages. Possible in the Northern Region; Potential breeding habitat exists in Kentucky Wash, north of the Vincent Substation. Unlikely in the southern Region; Marginal habitat is present at Eaton Wash, immediately south of ANF. Surveys were conducted in Arroyo Seco and no toads were detected in 2001.</p>
California Red-legged Frog <i>Rana draytonii</i>	FT, CSSC	Inhabits permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods.	<p>Segment 4: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Possible. Suitable habitat exists in the Amargosa Creek system, and there is a CNDDDB record located approximately 2.4 miles from Amargosa Creek crossing. Red-legged frogs are known to move 2-3 miles upstream and downstream in a stream corridor. The species was not detected during focused surveys in 2006 or reconnaissance surveys in 2007.</p> <p>Segment 6: Possible. Although suitable habitat exists in Upper Big Tujunga Canyon and other drainages nearby, species is extremely rare in the mountains of Southern California. Unlikely in the Northern Region; No suitable breeding habitat exists within Segment 6 north of the ANF.</p> <p>Segment 7: Unlikely. Likely extirpated.</p> <p>Segment 8: Unlikely. Likely extirpated</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 11: Possible in the Central Region only; Although suitable habitat exists in Upper Big Tujunga Canyon and other drainages nearby, species is extremely rare in the mountains of Southern California. Unlikely in the Northern Region; No suitable breeding habitat exists within Segment 11 north of the ANF. Unlikely in the Southern Region; Likely extirpated.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Foothill Yellow-legged Frog <i>Rana boylei</i>	FSS, CSSC	Inhabits shallow, small to medium-sized, rocky streams, from sea level to about 6,365 feet.	<p>Segment 4: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 5: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 6: Possible. Suitable habitat exists in Upper Tujunga Canyon and nearby creeks and drainages. Historic use of San Gabriel River, both in the west fork and Fish Canyon are known. Unlikely in the Northern Region; Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 7: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 8: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 10: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 11: Possible in the Central Region only; Suitable habitat exists in Upper Tujunga Canyon and nearby creeks and drainages. Unlikely in the Northern and Southern Regions; Suitable habitat is absent, and these segments lie outside the current known range of the species.</p>
Mountain Yellow-legged Frog <i>Rana muscosa</i>	FE (San Gabriel, San Bernardino, and San Jacinto populations only), CSSC	A highly aquatic frog; inhabits rocky, shaded streams in cool water; also occurs in mountain lakes. Prefers deeper pools. Historically, elevation in southern California ranged from 1,200 feet to 7,500 feet.	<p>Segment 4: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 5: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 6: Possible. Recent range includes the upper reaches of Devil's Canyon, Upper Tujunga Canyon, east fork of Alder Creek, and potentially other nearby canyons. Nearest recent record from 1999, 0.2 mi upstream from mouth of Bear Gulch approximately 20 miles east of Segment 6. Unlikely in the Northern Region; Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 7: Unlikely. No suitable habitat is present. This area was historically known to have mountain yellow-legged frogs near the Forest Boundary.</p> <p>Segment 8: Unlikely. No suitable habitat is present, and this segment is outside the known range of the species.</p> <p>Segment 10: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known range for this species.</p> <p>Segment 11: Possible. Although suitable habitat exists in Upper Big Tujunga Canyon and Alder Creek, no recent records exist nearby. Species is thought to have been extirpated from >99% of former range in Southern California. Unlikely in the Northern and Southern Regions; Not likely to occur due to lack of habitat and locations are outside the known range for this species.</p>
Western Spadefoot <i>Spea hammondi</i>	CSSC	Grasslands and occasionally hardwood woodlands, washes, floodplains, and playas. Primarily occurs in lowlands, but also in foothills and mountains. Vernal pools or similar ephemeral pools required for breeding.	<p>Segment 4: Unlikely. No suitable habitat for this species.</p> <p>Segment 5: Unlikely. No suitable habitat for this species.</p> <p>Segment 6: Possible in the Central Region; Could occur in suitable habitats below 4,000 feet if suitable breeding habitat is present nearby. Unlikely in the Northern Region; No suitable habitat for this species.</p> <p>Segment 7: Possible: May occur across a variety of undeveloped habitats where suitable breeding pools are present.</p> <p>Segment 8: Present. Observed in Puente Hills Landfill Native Habitat Preservation Authority lands during surveys conducted in 2005. High quality habitat is present in the Puente Hills and Chino Hills areas. May also occur across a variety of undeveloped habitats where suitable breeding pools are present.</p> <p>Segment 10: Unlikely. No suitable habitat for this species.</p> <p>Segment 11: Possible in the Central and Southern Regions; Could occur in suitable habitats below 4,000 feet if suitable breeding habitat is present nearby. Unlikely in the Northern Region; No suitable habitat for this species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Coast Range Newt <i>Taricha torosa torosa</i>	CSSC	Inhabits moist uplands surrounding ponds, reservoirs, or slow-moving streams in which they breed.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Present: Occurrence record from the San Gabriel River including the West Fork. Observed in drainages crossing the Monrovia Truck Trail access road in May 2008. May occur in and along other drainages, with the greatest likelihood of occurrence in cismontane slopes. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Unlikely. Marginal habitat is present at Rio Hondo and the San Gabriel River. Habitat along these rivers is highly disturbed and degraded.</p> <p>Segment 8: Possible. Suitable habitat is present in Brea Canyon and Tonner Creek. Habitat along these streams is moderately disturbed and degraded.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Present in the Central Region; May occur in and along several drainages, with the greatest likelihood of occurrence in cismontane slopes. Possible in the Southern Region; Suitable habitat is present in Eaton Wash. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p>
San Gabriel Mountains Slender Salamander <i>Batrachoseps gabrieli</i>	FSS	Known only from 13 sites within forest communities of the San Gabriel Mtns. Primarily inhabits talus and large rocks, logs, and bark during periods of surface activity.	<p>Segment 4: Unlikely. Outside of the known range.</p> <p>Segment 5: Unlikely. Outside of the known range.</p> <p>Segment 10: Unlikely. Outside of the known range.</p> <p>Segment 6: Possible in the Central Region only; Suitable habitat is present at numerous locations. Unlikely in the Northern Region; Outside of the known range.</p> <p>Segment 7: Unlikely. Outside of the known range.</p> <p>Segment 8: Unlikely. Outside of the known range.</p> <p>Segment 11: Possible. Suitable habitat is present at numerous locations. Unlikely in the Northern and Southern Regions; Outside of the known range.</p>
Tehachapi slender salamander <i>Batrachoseps stebbinsi</i>	FSS, ST	Inhabits moist canyons and ravines in oak and mixed woodlands. Found under rocks, logs, bark, and other debris in moist areas, especially in areas with much leaf-litter, often near talus slopes.	<p>Segment 4: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species. Suitable habitat not available.</p> <p>Segment 5: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species. Suitable habitat not available.</p> <p>Segment 6: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species.</p> <p>Segment 7: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species.</p> <p>Segment 8: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species. Suitable habitat not available.</p> <p>Segment 10: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species.</p> <p>Segment 11: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Yellow-blotched Salamander <i>Ensatina eschscholtzii croceater</i>	FSS, CSSC	Litter and debris of oak woodland, pine dominated open woodland, and fir dominated open forest.	<p>Segment 4: Unlikely. No suitable habitat exists.</p> <p>Segment 5: Unlikely. No suitable habitat exists.</p> <p>Segment 6: Possible in the Central Region only; This species has been found at several locations throughout the ANF and suitable habitat is present at numerous locations. Unlikely in the Northern Region; No suitable habitat exists.</p> <p>Segment 7: Unlikely. No suitable habitat exists.</p> <p>Segment 8: Unlikely. Outside of the known range of this subspecies.</p> <p>Segment 10: Unlikely. No suitable habitat exists.</p> <p>Segment 11: Possible in the Central Region only; Has been found at several locations throughout the ANF and suitable habitat is present at numerous locations. Unlikely in the Northern and Southern Regions; No suitable habitat exists.</p>
REPTILES			
California Horned Lizard <i>Phrynosoma coronatum frontale</i>	CSSC	Loose sandy loam and alkaline soils in habitats including chaparral, grasslands, saltbush scrub, coastal scrub, and clearings in riparian woodlands.	<p>Segment 4: Possible. May occur across a variety of undeveloped habitats within southern portions. This subspecies considered unlikely in northern half of the segment.</p> <p>Segment 5: Likely. Known to occur near this segment. May occur across a variety of undeveloped habitats within southern and central portions of this segment.</p> <p>Segment 6: Likely in the Northern Region only; Known to occur near this segment. May occur across a variety of undeveloped habitats within southern and central portions of this segment.</p> <p>Segment 7: Unlikely. Although suitable habitat is present, this segment is likely outside the range of this subspecies.</p> <p>Segment 8: Unlikely. Although suitable habitat is present, this segment is likely outside the range of this subspecies.</p> <p>Segment 10: Unlikely. Although suitable habitat is present, this segment is likely outside the range of this subspecies.</p> <p>Segment 11: Likely in the Northern Region only; Known to occur near this segment. May occur across a variety of undeveloped habitats within southern and central portions of this segment. Unlikely in the Central and Southern Regions; Although suitable habitat is present, this segment is likely outside the range of this subspecies.</p>
San Diego Horned Lizard <i>Phrynosoma coronatum blainvillii</i>	FSS, CSSC	A variety of habitats, including coastal sage scrub, chaparral, oak woodland, riparian woodland, and coniferous forest. Friable, sandy soils in areas with an abundant prey base of native ants are key habitat components.	<p>Segment 4: Possible. May occur across a variety of undeveloped habitats within southern portions. This subspecies considered unlikely in northern half of the segment</p> <p>Segment 5: Likely. Known to occur near this segment. May occur across a variety of undeveloped habitats within southern and central portions of this segment.</p> <p>Segment 6: Present. Known to occur at several locations in the ANF. May occur across a variety of habitats</p> <p>Segment 7: Unlikely. This segment is likely outside the range of this subspecies.</p> <p>Segment 8: Unlikely. This segment is likely outside the range of this subspecies.</p> <p>Segment 10: Unlikely. Although suitable habitat is present, this segment is likely outside the range of this subspecies.</p> <p>Segment 11: Present in the Central Region; Known to occur at several locations in the ANF. May occur across a variety of undeveloped habitats. Likely in the Northern Region; Known to occur near this segment. Unlikely in the Southern Region; This area is likely outside the range of this subspecies.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Mojave Fringe-Toed Lizard <i>Uma scoparia</i>	CSSC	Restricted to fine, loose, windblown sand of dunes, flats, riverbanks, and washes in areas with scant vegetation.	Segment 4: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 5: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 6: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 7: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 8: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 10: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species. Segment 11: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.
Orange-throated Whiptail <i>Aspidoscelis hyperythrus beldingi</i>	CSSC	Chaparral, thornscrub, and frequently sandy areas of washes, streams, and terraces with streamside vegetation. Rocky slopes with patches of brush are often utilized.	Segment 4: Unlikely. Outside the species' known range. Segment 5: Unlikely. This segment lies outside the species' known range. Segment 6: Unlikely. This segment lies outside the species' known range. Segment 7: Unlikely. This segment lies well outside the species' known range. Segment 8: Unlikely. Habitat highly degraded in the vicinity of the species' range. Segment 10: Unlikely. This segment lies outside the species' known range. Segment 11: Unlikely. This segment lies well outside the species' known range.
Silvery Legless Lizard <i>Anniella pulchra pulchra</i>	CSSC	Sandy or loose loamy soils covered by sparse vegetation. Chaparral, pine-oak woodland, washes, streamside terraces utilized. Elevated soil moisture is required.	Segment 4: Unlikely. Does not occur due to lack of habitat. Segment 5: Unlikely. Does not occur due to lack of habitat. Segment 6: Present. Occurrence records are lacking. However, this species is highly cryptic and some suitable habitat is present. A legless lizard was detected in the West Fork San Gabriel River. Unlikely in the Northern Region; Does not occur due to lack of habitat.
California Legless Lizard <i>Anniella pulchra</i>	FSS		Segment 7: Likely. May occur across a variety of undeveloped habitats with friable soils and sparse vegetation. Segment 8: Likely. May occur across a variety of undeveloped habitats with friable soils and sparse vegetation. Particularly good habitat exists in the Puente Hills and Chino Hills areas. Segment 10: Unlikely. Does not occur due to lack of habitat. Segment 11: Likely in the Southern Region; May occur across a variety of undeveloped habitats with friable soils and sparse vegetation. Possible in the Central Region; Occurrence records are lacking. However, this species is highly cryptic, and some suitable habitat is present. Unlikely in the Northern Region due to lack of habitat.
California Red-sided Garter Snake <i>Thamnophis sirtalis infernalis</i>	CSSC	Marsh habitats of perennial or nearly perennial water and the surrounding uplands.	Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species. Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species. Segment 6: Unlikely. Although suitable habitat is present along several drainages, this taxon is very uncommon or extirpated in Los Angeles Co. Segment 7: Unlikely. Although suitable habitat is present along several drainages, this species is uncommon in Los Angeles Co. Segment 8: Unlikely. Although suitable habitat is present along several drainages, this species is uncommon in Los Angeles Co. Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species. Segment 11: Unlikely. Although suitable habitat is present along several drainages, this taxon is very uncommon or extirpated in Los Angeles Co.

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Two-striped Garter Snake <i>Thamnophis hammondi</i>	FSS, CSSC	In or near permanent freshwater, more commonly in pools of streams with a rocky substrate, bordered by riparian vegetation.	<p>Segment 4: Unlikely. Suitable habitat absent.</p> <p>Segment 5: Likely. Recorded near the Amargosa Creek crossing and could also occur in Anaverde Creek.</p> <p>Segment 6: Present. Occurrence record from the San Gabriel River, and suitable habitat is present in and along several other drainages. Found in Upper Big Tujunga and Alder Creek. Unlikely in the Northern Region; Suitable habitat absent.</p> <p>Segment 7: Possible. Suitable habitat present in Rio Hondo and the San Gabriel River. Habitat along these rivers within Segment 7 is highly disturbed and degraded.</p> <p>Segment 8: Likely. Suitable habitat present in Tonner Creek. Marginal habitat present at Brea Canyon.</p> <p>Segment 10: Unlikely. Suitable habitat absent.</p> <p>Segment 11: Present in the Central Region; This species is found in Upper Big Tujunga. Likely in the Southern Region; Suitable habitat present in Eaton Wash. Unlikely in the Northern Region; Suitable habitat absent.</p>
Coast Patch-nosed Snake <i>Salvadora hexalepis virgultea</i>	CSSC	Inhabits chaparral or other habitats relatively sparse, brushy or shrubby vegetation.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Likely in the Central Region only; Suitable habitat for this species is widespread throughout undeveloped areas. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Likely. Suitable habitat for this species is widespread throughout undeveloped areas</p> <p>Segment 8: Likely. Suitable habitat for this species is widespread throughout undeveloped areas.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Likely in the Central and Southern Regions only; Suitable habitat for this species is widespread throughout undeveloped areas. Unlikely in the Northern region; No suitable habitat exists and this segment lies outside the known range of the species.</p>
Coastal Rosy Boa <i>Charina trivirgata roseofusca</i>	FSS	Coastal sage scrub, chaparral, or mixed habitats. Also found in riparian areas and in oak woodlands, where they interdigitate with coastal sage scrub or chaparral. Common in desert scrub areas. Rock outcrops are a common but not requisite habitat feature.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Likely: Suitable habitat for this species is widespread throughout undeveloped areas. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Likely: Suitable habitat for this species is widespread throughout undeveloped areas of this segment.</p> <p>Segment 8: Likely: Suitable habitat for this species is widespread throughout undeveloped areas of this segment. Particularly good habitat exists in the Puente Hills and Chino Hills areas.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Likely in the Central and Southern Regions; Suitable habitat for this species is widespread throughout undeveloped areas of this segment. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Southern Rubber Boa <i>Charina bottae umbratica</i>	ST, FSS	Occurs in conifer forests near streams and meadows. Known to occur in the Transverse Range, San Bernardino Mtns., and thought to be extirpated from the San Gabriel Mtns.	Segment 4: Unlikely. Suitable habitat is not present. Segment 5: Unlikely. Suitable habitat is not present. Segment 6: Unlikely. Thought to be extirpated from the San Gabriel Mountains, but focused surveys have not been conducted. Also unlikely in the Northern Region; Suitable habitat is not present. Segment 7: Unlikely. Suitable habitat is not present. Segment 8: Unlikely. Suitable habitat is not present. Segment 10: Unlikely. Suitable habitat is not present. Segment 11: Unlikely. Thought to be extirpated from the San Gabriel Mountains, but focused surveys have not been conducted. Also unlikely in Northern and Southern Regions; Suitable habitat is not present.
Northern Red Diamond Rattlesnake <i>Crotalus ruber ruber</i>	CSSC	Inhabits chaparral, coastal sage scrub, desert scrub habitats, and other brushy habitats. Usually found in association with large rocks or boulders.	Segment 4: Unlikely. This segment lies well outside the species' known range. Segment 5: Unlikely. This segment lies well outside the species' known range. Segment 6: Unlikely. This segment lies well outside the species' known range. Segment 7: Unlikely. This segment lies well outside the species' known range. Segment 8: Present. Observed in Puente/Chino Hills during surveys conducted in 2002 and 2005. However, unlikely in other portions of this segment because they are outside the species' known range. Segment 10: Unlikely. This segment lies well outside the species' known range. Segment 11: Unlikely. This segment lies well outside the species' known range.
San Bernardino Ringneck Snake <i>Diadophis punctatus modestus</i>	FSS	Moist habitats in forests, woodlands, grasslands, and chaparral. Usually found under cover objects such as rocks, logs, or bark.	Segment 4: Unlikely. This segment lies well outside the species' known range. Segment 5: Unlikely. This segment lies well outside the species' known range. Segment 6: Likely. Suitable habitat for this species is widespread throughout undeveloped areas. Unlikely in the Northern Region; This segment lies well outside the species' known range. Segment 7: Possible. Potential habitat is present within some undeveloped areas. Segment 8: Present. Observed in the Whittier Hills in the Puente Hills Landfill Native Habitat Preservation Authority lands during surveys conducted in 2002. Particularly good habitat observed in the Puente Hills and Chino Hills areas Segment 10: Unlikely. This segment lies well outside the species' known range. Segment 11: Present. Occurs in the Arroyo Seco. Potential habitat is present within some undeveloped areas. Likely in the Central Region; Suitable habitat for this species is widespread throughout undeveloped areas. Unlikely in the Northern Region; This segment lies well outside the species' known range.
San Bernardino Mountain Kingsnake <i>Lampropeltis zonata parvirubra</i>	FSS, CSSC	Inhabits canyons with low to moderate tree canopy, with rock outcrops or talus, frequently in association with bigcone spruce and chaparral vegetation at lower elevations.	Segment 4: Unlikely. This segment lies well outside the species' known range. Segment 5: Unlikely. This segment lies well outside the species' known range. Segment 6: Present. Has been found in the West Fork San Gabriel River. Unlikely in the Northern Region; This area lies well outside the species' known range. Segment 7: Likely. Limited potential habitat near the ANF boundary. Segment 8: Unlikely. This segment lies well outside the species' known range. Segment 10: Unlikely. This segment lies well outside the species' known range. Segment 11: Present in the Central Region; Has been found in the Arroyo Seco. Likely in the Southern Region; Found within the San Gabriel Mountains areas. Unlikely in the Northern Region; This area lies well outside the species' known range.
San Diego Mountain Kingsnake	FSS, CSSC	A variety of habitats, including coniferous	Segment 4: Unlikely. This segment is likely outside the range of this species. Segment 5: Unlikely. This segment is likely outside the range of this species.

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
<i>Lampropeltis zonata pulchra</i>		forest, oak-pine and riparian woodland, chaparral, manzanita, and coastal sage scrub. Often utilizes well-lit wooded areas with rotting logs and/or talus and rock outcrops.	<p>Segment 6: Unlikely. This segment is likely outside the range of this species.</p> <p>Segment 7: Possible. Limited potential of habitat near Puente Hills.</p> <p>Segment 8: Likely. Known in Chino Hills State Park.</p> <p>Segment 10: Unlikely. This segment is likely outside the range of this species.</p> <p>Segment 11: Possible in the Southern Region; Limited potential of habitat near Puente Hills. Unlikely in the Northern and Central Regions; Outside of the known range for this species.</p>
Southwestern Pond Turtle <i>Emys marmorata pallida</i>	FSS, CSSC	In and around a wide variety of permanent or nearly permanent aquatic habitats.	<p>Segment 4: Unlikely. Suitable habitat absent.</p> <p>Segment 5: Likely. Suitable habitat present in the Amargosa Creek system. Species is known to occur near or within this drainage and has been found upstream from the Project area.</p> <p>Segment 6: Present in the Central Region; Has been found in Upper Big Tujunga Creek and the West Fork of San Gabriel River. Unlikely In the Northern Region; Suitable habitat absent.</p> <p>Segment 7: Present. Observed at the San Gabriel River during reconnaissance surveys conducted in 2007. Marginal habitat also present at Rio Hondo.</p> <p>Segment 8: Present. Observed at Brea Canyon during reconnaissance surveys conducted in 2007. Marginal habitat also present at Tonner Creek.</p> <p>Segment 10: Unlikely. Suitable habitat absent.</p> <p>Segment 11: Likely in the Ventral Region; Suitable habitat is present in several drainages, and several occurrences are recorded from the Project vicinity. Possible in the Southern Region; Suitable habitat present at Eaton Wash. Unlikely In the Northern Region; Suitable habitat absent.</p>
Desert Tortoise <i>Gopherus agassizii</i>	FT, ST	Inhabits semi-arid grasslands, gravelly desert washes, canyon bottoms and rocky hillsides. Associated plant species includes creosote bush, Joshua tree, cheese bush, saltbush, grasses, and cacti.	<p>Segment 4: Unlikely. Although suitable habitat exists within the creosote scrub and Joshua tree woodland habitats of this segment, the species was not detected during focused surveys conducted in June 2006 and reconnaissance surveys in 2007. This segment lies outside the current known range of the species.</p> <p>Segment 5: Unlikely. Although limited suitable habitat exists within the creosote scrub and Joshua tree woodland habitats, this segment lies outside the current known range of the species.</p> <p>Segment 6: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 7: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 8: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 10: Unlikely. Although suitable habitat exists within the creosote scrub and Joshua tree woodland habitats, this segment lies outside the current known range of the species.</p> <p>Segment 11: Unlikely. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p>
MAMMALS			
San Gabriel Mountains Bighorn Sheep <i>Ovis Canadensis nelson</i>	FSS	Inhabits open, rocky, steep areas with access to water and herbaceous vegetation. Populations currently	<p>Segment 4: Unlikely. Outside of known range.</p> <p>Segment 5: Unlikely. Outside of known range.</p> <p>Segment 6: Possible. Suitable habitat occurs at several locations. A single sighting has been reported from Santa Anita Canyon. Known to occur from San Gabriel Wilderness area south to West Fork San Gabriel River. Unlikely in the Northern Region; Outside of known range.</p> <p>Segment 7: Possible. Suitable habitat occurs at several locations in the northernmost part of this segment. A single sighting has</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
		managed in the Sheep management area of the San Gabriel Mtns.	been reported from Santa Anita Canyon. Known to occur from San Gabriel Wilderness area south to West Fork San Gabriel River. Segment 8: Unlikely. Outside of known range. Segment 10: Unlikely. Outside of known range. Segment 11: Unlikely. Outside of known range.
American Badger <i>Taxidea taxus</i>	CSSC	Occurs in open habitats, including grasslands, desert scrub, agricultural fields and pastures, and sparse coastal scrub.	Segment 4: Likely. Suitable grassland, desert scrub, and agricultural field habitat present. Segment 5: Likely. Suitable grassland, desert scrub, and agricultural field habitat present. Segment 6: Present. There is limited suitable grassland habitat present on the northern foothills of the San Gabriel Mountains. Habitat is rugged, but species may occur in some grassland valleys. Badger dens have been documented along the Pacific Crest Trail near and to the west of Arrastre Canyon in the Central Region. Segment 7: Unlikely. Marginal habitat observed at the base of the southern slope of the San Gabriel Mountains. Segment 8: Present. Recorded in the Puente Hills Landfill Native Habitat Preservation Authority lands in 2006. Suitable grassland habitat is present in the Puente and Chino Hills. Segment 10: Likely. Suitable grassland, desert scrub, and agricultural field habitat present. Segment 11: Possible. Possible in the northern and Central Regions. There is limited suitable grassland habitat is present on the northern foothills of the San Gabriel Mountains Habitat is rugged, but species may occur in some grassland valleys. Unlikely in the south; habitat is marginal at the base of the southern slope of the San Gabriel Mountains.
Ringtail Cat <i>Bassariscus astutus</i>	CDFG FP	Occurs primarily in or adjacent to riparian habitats, but also known from forest and shrub habitats at low to mid elevations.	Segment 4: Unlikely. Marginal habitat occurs along washes. Segment 5: Possible. Suitable habitat exists along Amargosa Creek. Segment 10: Possible. Suitable habitat exists along Oak Creek in the vicinity. Segment 6: Present. Suitable habitat exists along Big Tujunga Creek, West Fork San Gabriel River, and forested areas. Possible in the Northern Region; May occur within the proposed Project alignment within forest and shrub habitats at low to mid elevations. Segment 7: Possible. There is suitable habitat in San Gabriel foothills. Segment 8: Possible. Suitable habitat exists in the Puente and Chino Hills. Segment 11: Likely in the Central Region; Suitable habitat exists along Big Tujunga Creek, West Fork of the San Gabriel River, and forested areas. Possible in the Central and Southern Regions; There is suitable habitat in San Gabriel foothills. Also may occur within the proposed Project alignment within forest and shrub habitats at low to mid elevations.
San Diego Black-tailed Jackrabbit <i>Lepus californicus bennettii</i>	CSSC	Occurs in open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub.	Segment 4: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species. Segment 5: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species. Segment 6: Possible. There is limited suitable habitat at the base of the southern slope of the San Gabriel Mountains in coastal sage scrub. Unlikely in the Northern Region; No suitable habitat is available for this species and area is outside of the known range for this species. Segment 7: Likely. Suitable habitat in San Gabriel foothills. Segment 8: Likely. Suitable habitat in the Segment 8 alignment within the Puente and Chino Hills. Segment 10: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species. Segment 11: Likely. Suitable habitat in the San Gabriel foothills. Possible in the Central Region; There is limited suitable habitat at the base of the southern slope of the San Gabriel Mountains in coastal sage scrub. Unlikely in the Northern Region; No suitable habitat is available for this species and area is outside of the known range for this species.

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Mohave Ground Squirrel <i>Spermophilus mohavensis</i>	ST	Desert scrub habitats, usually on flat to gently sloping terrain with alluvial soils. Often co-occurs with antelope ground squirrel.	<p>Segment 4: Possible: Disturbed and degraded habitats occur throughout. Low-quality habitat observed. No individuals detected during reconnaissance surveys conducted in June 2006 or September 2007.</p> <p>Segment 5: Unlikely: Disturbed habitats occur throughout, especially south of Holiday Avenue. No individuals detected during reconnaissance surveys conducted in June 2006 or September 2007.</p> <p>Segment 6: Unlikely: Not likely to occur due to lack of habitat.</p> <p>Segment 7: Unlikely: Not likely to occur due to lack of habitat.</p> <p>Segment 8: Unlikely: Not likely to occur due to lack of habitat.</p> <p>Segment 10: Present: Suitable habitat in Joshua tree woodland and creosote scrubland south of Oak Creek Drive; one individual was observed on the Project site during the reconnaissance-level surveys in June 2006.</p> <p>Segment 11: Unlikely: Not likely to occur due to lack of habitat.</p>
San Diego Desert Woodrat <i>Neotoma lepida intermedia</i>	CSSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth.	<p>Segment 4: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 5: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 10: Unlikely. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 6: Likely. Distributed in the coastal and mountainous areas of southwestern California. There is suitable habitat on the southern slope of the San Gabriel Mountains. Unlikely in the Northern Region; No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 7: Likely. Suitable habitat in San Gabriel foothills.</p> <p>Segment 8: Present. Recorded in Puente Hills Landfill Native Habitat Preservation Authority lands in 2003. There is suitable habitat in the Chino and Puente Hills.</p> <p>Segment 11: Likely in the Central and Southern Regions; This subspecies is distributed in the coastal and mountainous areas of southwestern California. Suitable habitat on the southern slope of the San Gabriel Mountains. Unlikely in the Northern Region; No suitable habitat is available for this species and area is outside of the known range for this species.</p>
Stephen's Kangaroo Rat <i>Dipodomys stephensi</i>	FE, ST	Inhabits open grasslands and sparse coastal scrub with less than 50% cover, often with increased cover of forbs. Favors sites with gentle slopes and sandy to sandy loam soils with low clay and gravel content.	<p>Segment 4: Unlikely. Outside of the geographic range for the species.</p> <p>Segment 5: Unlikely. Outside of the geographic range for the species.</p> <p>Segment 6: Unlikely. Outside of the geographic range for the species.</p> <p>Segment 7: Unlikely. Outside of the geographic range for the species.</p> <p>Segment 8: Unlikely. Suitable habitat present but more than 5 miles outside the known range of this species. Nearest CNDDDB records (3 total) are approximately 6 mi to the southeast of the Mira Loma Substation but 13 mi to nearest suitable habitat within Chino Hills.</p> <p>Segment 10: Unlikely. Outside of the geographic range for the species.</p> <p>Segment 11: Unlikely. Outside of the geographic range for the species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Los Angeles Pocket Mouse <i>Perognathus longimembris brevinasus</i>	FSS, CSSC	Found in open ground of fine sandy composition; prefers fine, sandy soils and may utilize these soil types for burrowing; may be restricted to lower elevation grassland and coastal sage scrub.	<p>Segment 4: Unlikely. Suitable habitat is absent</p> <p>Segment 5: Unlikely. Suitable habitat is absent</p> <p>Segment 6: Unlikely. Suitable habitat is absent</p> <p>Segment 7: Unlikely. Marginal habitat in the Whittier Narrows Recreation Area, although this species is probably extirpated here.</p> <p>Segment 8: Unlikely. Marginal habitat in the Project area in the Puente and Chino Hills and along the San Gabriel River in the Whittier Narrows Recreation Area (probably extirpated in Whittier Narrows).</p> <p>Segment 10: Unlikely. Suitable habitat is absent.</p> <p>Segment 11: Unlikely. Marginal habitat the foothills of the San Gabriel Mountains, especially near Eaton Wash.</p>
Northwestern San Diego Pocket Mouse <i>Chaetodipus fallax fallax</i>	CSSC	Inhabits coastal sage scrub and grasslands in moderately gravelly or rocky substrates and sandy-loam to loam soils.	<p>Segment 4: Unlikely. This segment lies well outside the species' known range.</p> <p>Segment 5: Unlikely. This segment lies well outside the species' known range.</p> <p>Segment 6: Possible in the Central Region only; Suitable habitat at the base of the southern slope of the San Gabriel Mountains in suitable coastal sage scrub habitat. Unlikely in the Northern Region; This area lies well outside the species' known range.</p> <p>Segment 7: Possible. Nearest record is approximately 11.5 miles to east, but marginally suitable habitat exists in the southern San Gabriel foothills.</p> <p>Segment 8: Possible. Suitable habitat within the Chino and Puente Hills.</p> <p>Segment 10: Unlikely. This segment lies well outside the species' known range.</p> <p>Segment 11: Possible in the Central and Southern Regions; There is suitable habitat at the base of the southern slope of the San Gabriel Mountains in suitable coastal sage scrub habitat. Nearest records are from approximately 20 miles to southeast and east., Unlikely in the Northern Region; This area lies well outside the species' known range.</p>
Tehachapi Pocket Mouse <i>Perognathus alticolus inexpectatus</i>	FSS, CSSC	Occurs in a diversity of habitats, including Joshua tree woodland, pinyon-juniper woodland, oak savanna, and native and non-native grasslands. Burrows in friable, sandy soil.	<p>Segment 4: Possible. Occurrence mostly near the southern end of this segment, where nearby CNDDDB and museum records exist.</p> <p>Segment 5: Possible. Occurrence is most likely in the foothills and Tehachapi Mountain range near Cottonwood Creek, or near the southern end of Segment 4, where nearby CNDDDB and museum records exist.</p> <p>Segment 6: Possible in the Northern Region; Occurrence is most likely in the foothills where these segments intersect with the existing Vincent Substation. Unlikely in the Central Region; Nearest records for this species occur 20 miles west of the Vincent Substation.</p> <p>Segment 7: Unlikely. Nearest records for this species occur 20 miles west of the Vincent Substation.</p> <p>Segment 8: Unlikely. Nearest records for this species occur 20 miles west of the Vincent Substation.</p> <p>Segment 10: Possible. Occurrence is most likely in the foothills and Tehachapi Mountain range near Cottonwood Creek.</p> <p>Segment 11: Possible in the Northern Region; Occurrence is most likely in the foothills where these segments intersect with the existing Vincent Substation. Unlikely in the Central and Southern Regions; Nearest records for this species occur 20 miles west of the Vincent Substation.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
White-eared Pocket Mouse <i>Perognathus alticolus alticolus</i>	FSS, CSSC	The white-eared pocket mouse is known only from a series of allopatric populations in arid yellow pine communities in the vicinity of Little Bear Valley and Strawberry Peak, San Bernardino Mtns., San Bernardino County. This species is likely to be found among Sagebrush and other shrubs in open, Ponderosa Pine forests and Pinyon-Juniper woodlands and in Sagebrush covered areas on the northern slopes and Big Bear Basin of the San Bernardino Mtns.	<p>Segment 4: Unlikely. Known only from a small number of populations east of the Project area. Has not been recorded since 1934.</p> <p>Segment 5: Unlikely. Known only from a small number of populations east of the Project area. Has not been recorded since 1934.</p> <p>Segment 6: Unlikely. Known only from a small number of populations east of the Project area. Has not been recorded since 1934.</p> <p>Segment 7: Unlikely. Known only from a small number of populations in the western San Bernardino Mountains. Has not been recorded since 1934.</p> <p>Segment 8: Unlikely. Known only from a small number of populations in the western San Bernardino Mountains. Has not been recorded since 1934.</p> <p>Segment 10: Unlikely. Known only from a small number of populations east of the Project area. Has not been recorded since 1934.</p> <p>Segment 11: Unlikely. Known only from a small number of populations in the western San Bernardino Mountains. Has not been recorded since 1934.</p>
Southern Grasshopper Mouse <i>Onychomys torridus ramona</i>	CSSC	Occurs primarily in grassland and sparse coastal sage scrub habitats.	<p>Segment 4: Unlikely. Distributed in the coastal and mountainous areas of southwestern California. Marginal habitat exists near the Vincent Substation to the edge of the Mojave Desert.</p> <p>Segment 5: Unlikely. Distributed in the coastal and mountainous areas of southwestern California. Marginal habitat exists near the Vincent Substation.</p> <p>Segment 6: Possible. Limited suitable habitat at the base of the southern slope of the San Gabriel Mountains in coastal sage scrub. Unlikely in Northern Region; Marginal habitat exists near the Vincent Substation to the edge of the Mojave Desert.</p> <p>Segment 7: Possible. Limited suitable habitat in San Gabriel foothills.</p> <p>Segment 8: Possible. Suitable habitat in sections of the Chino and Puente Hills.</p> <p>Segment 10: Unlikely. Distributed in the coastal and mountainous areas of southwestern California. Marginal habitat exists near the Vincent Substation to the edge of the Mojave Desert.</p> <p>Segment 11: Possible in the Central and Southern regions; Limited suitable habitat at the base of the southern slope and foothills of the San Gabriel Mountains in coastal sage scrub. Unlikely in Northern Region; Marginal habitat exists near the Vincent Substation to the edge of the Mojave Desert.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Tulare Grasshopper Mouse <i>Onychomys torridus tularensis</i>	CSSC	Occurs in alkali desert scrub, succulent shrub, arid grassland, and desert wash or riparian communities.	Segment 4: Unlikely. Edge of the southern distribution of this subspecies occurs near the eastern end of this segment. Segment 5: Unlikely. Edge of the southern distribution of this subspecies occurs near the northern portion of Segment 10 or eastern end of Segment 4. Segment 6: Unlikely. Segment is outside of the known range of the species. Segment 7: Unlikely. Segment is outside of the known range of the species. Segment 8: Unlikely. Segment is outside of the known range of the species. Segment 10: Unlikely. Edge of the southern distribution of this subspecies occurs near the northern portion of Segment 10. Segment 11: Unlikely. Segment is outside of the known range of the species.
MAMMALS (BATS)			
Big Free-tailed Bat <i>Myctinomops macrotis</i>	CSSC	Roosts primarily in caves, cliffs, rocky areas, and buildings, and occurs in primarily arid habitats.	Segment 4: Unlikely. No suitable habitat exists, and this segment lies well outside the known range of the species. Segment 5: Unlikely. No suitable habitat exists, and this segment lies well outside the known range of the species. Segment 6: Unlikely. No suitable habitat exists, and this segment lies well outside the known range of the species. Segment 7: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment. Segment 8: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment. Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species. Segment 11: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment.
California Leaf-nosed Bat <i>Macrotus californicus</i>	CSSC, FSS	The California leaf-nosed bat's preferred habitats are caves, mines, and rock shelters, mostly in Sonoran desert scrub. Roost sites are usually located near foraging areas.	Segment 4: Unlikely. Outside the known range for this species. Segment 5: Unlikely. Outside the known range for this species. Segment 6: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS). Segment 7: Unlikely. Outside the known range for this species. Segment 8: Unlikely. Outside the known range for this species. Segment 10: Unlikely. Outside the known range for this species. Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).
Pallid Bat <i>Antrozous pallidus</i>	FSS, CSSC	Primarily roosts in rock crevices, trees, bridges, and buildings, but also uses crevices and cavities in caves and mines. Found in many habitat types with open areas.	Segment 4: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Marginal roosting habitat was also observed in Joshua Tree woodland. This species is expected to forage over portions of this segment. Segment 5: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Marginal roosting habitat was also observed in Joshua Tree woodland. This species is expected to forage over portions of this segment Segment 6: Possible. Suitable roosting habitat was observed near Big Tujunga Creek within Upper Big Tujunga Canyon. Suitable habitat was also observed at abandoned mine near Milepost 8.7. Unlikely in the Northern Region; Primarily roosts in rock crevices, but also uses crevices and cavities in caves and mines. These areas may contain suitable roosting habitat. Segment 7: Unlikely. Marginal roosting habitat was observed in the foothills of the San Gabriel Mountains and at the San Gabriel River of the Whittier Narrows Recreation Area.

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			<p>Segment 8: Present. Recorded in Puente Hills in 2004 and in the Puente Hills Landfill Native Habitat Preservation Authority lands in 2006. Suitable roosting habitat was observed in the Chino and Puente Hills. Marginal habitat was observed along the San Gabriel River in the Whittier Narrows Recreation Area. This species is expected to forage over portions of this segment.</p> <p>Segment 10: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Marginal roosting habitat was also observed in Joshua Tree woodland. This species is expected to forage over portions of this segment</p> <p>Segment 11: Possible in the Central Region only; Low suitability roosting habitat was observed. However, five pallid bats were located in artificial "bat houses" under a bridge about 325 yards northwest of Alternative 6 helicopter site 3 near Aliso Canyon. Unlikely in the Northern and Southern Regions; Marginal roosting habitat was observed in the foothills of the San Gabriel Mountains south of the ANF</p>
Pocketed Free-tailed Bat <i>Nyctinomops femorosaccus</i>	CSSC	Prefers rock crevices in cliffs as roosting sites. May use buildings for day roosts and also is known to use cavities in trees.	<p>Segment 4: Unlikely: Typical roosting habitat was not observed.</p> <p>Segment 5: Unlikely: Typical roosting habitat was not observed.</p> <p>Segment 6: Unlikely: Typical roosting habitat was not observed.</p> <p>Segment 7: Unlikely: Typical roosting habitat was not observed.</p> <p>Segment 8: Present: Recorded in the Puente Hills Landfill Native Habitat Preservation Authority lands in 2005, 2006 with evidence of nearby roosting in Sycamore and Turnbull Canyons.</p> <p>Segment 10: Unlikely: Typical roosting habitat was not observed.</p> <p>Segment 11: Unlikely: Typical roosting habitat was not observed.</p>
Spotted Bat <i>Euderma maculatum</i>	CSSC	Primarily roosts along cliffs in cracks, crevices, and caves in fractured rock.	<p>Segment 4: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Foraging habitat was observed throughout this segment.</p> <p>Segment 5: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Foraging habitat was observed throughout this segment</p> <p>Segment 6: Possible. Low suitability roosting habitat was observed in portions of Segment 6.</p> <p>Segment 7: Unlikely. Roosting habitat was not observed.</p> <p>Segment 8: Unlikely. Roosting habitat was not observed.</p> <p>Segment 10: Unlikely. Marginal roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Foraging habitat was observed throughout this segment.</p> <p>Segment 11: Possible in the Central Region; Roosting habitat was observed along cliffs bordering Angeles Crest Highway above Brown Canyon. Unlikely in the Northern and Central Regions; Low-suitability roosting habitat was observed. Foraging habitat was observed throughout. However, roosting habitat was not observed in the Southern Region.</p>
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	FSS, CSSC	Primarily roosts in caves and abandoned mines, but may roost in buildings, bridges, rock crevices, and hollow trees in many habitat types.	<p>Segment 4: Unlikely. Roosting habitat was not observed. Foraging habitat was observed throughout.</p> <p>Segment 5: Unlikely. Roosting habitat was not observed. Foraging habitat was observed throughout.</p> <p>Segment 6: Present. Potential low-suitability roosting habitat observed at abandoned mine south of Mill Creek Summit. Potential suitable habitat possible in same area within private mines. Recorded near the Alternative 6 helicopter site 7 at Barely Flats Road. Possible in the Northern Region; Roosting habitat may occur within these areas. Foraging habitat was observed throughout.</p> <p>Segment 7: Unlikely. Marginal roosting habitat observed south of the ANF.</p> <p>Segment 8: Unlikely. Marginal roosting habitat observed in the Chino and Puente Hills.</p> <p>Segment 10: Unlikely. Roosting habitat was not observed. Foraging habitat was observed throughout.</p> <p>Segment 11: Possible in the Central and Northern Regions; Low suitability roosting habitat was observed in portions of Segment</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			11. Roosting habitat may occur within some areas. Foraging habitat was observed in the Northern Region. Unlikely in the Southern Region; Marginal roosting habitat observed south of the ANF.
Western Mastiff Bat <i>Eumops perotis</i>	CSSC	Primarily roosts along cliffs in cracks, crevices, and caves in fractured rock.	<p>Segment 4: Possible. Roosting habitat was not observed. Foraging habitat was observed throughout.</p> <p>Segment 5: Possible. Roosting habitat was not observed. Foraging habitat was observed throughout.</p> <p>Segment 6: Possible. Low suitability roosting habitat was observed. Foraging habitat was observed.</p> <p>Segment 7: Unlikely. Roosting habitat was not observed.</p> <p>Segment 8: Present. Recorded in Puente Hills Landfill Native Habitat Preservation Authority lands in 2005, 2006 but roosting habitat was not observed during previous surveys or reconnaissance-level surveys.</p> <p>Segment 10: Possible. Roosting habitat was not observed. Foraging habitat was observed</p> <p>Segment 11: Possible in the Northern and Central Regions; Roosting habitat was observed along cliffs bordering Angeles Crest Highway, above Brown Canyon. Foraging habitat was observed. Unlikely: Roosting habitat was not observed.</p>
Western Red Bat <i>Lasiurus blossevillii</i>	CSSC, FSS	Primarily roosts in mature riparian forest but also found in upland forests, woodlands, and orchards.	<p>Segment 4: Unlikely. Low-suitability roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation.</p> <p>Segment 5: Unlikely. Low-suitability roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation. Suitable roosting habitat also observed in Amargosa Creek</p> <p>Segment 6: Possible. Suitable roosting habitat was observed in Upper Big Tujunga Canyon. Additional potential habitat exists in riparian forest in the West Fork of the San Gabriel River drainage. Unlikely in the Northern Region; Not likely to occur due to lack of habitat.</p> <p>Segment 7: Unlikely. Marginal habitat is present along the San Gabriel River in the Whittier Narrows Recreation Area.</p> <p>Segment 8: Present. Recorded in the Puente Hills in 2005 and 2006 with evidence of nearby roosting. Suitable roosting habitat was observed in the Puente and Chino Hills and marginal habitat was observed along the San Gabriel River in the Whittier Narrows Recreation Area. Documented within the Puente Hills Landfill Native Habitat Preservation Authority lands in 2006.</p> <p>Segment 10: Unlikely. Low-suitability roosting habitat was observed at Cottonwood Creek near Aqueduct Road, approximately 1 mile from the Cottonwood Substation.</p> <p>Segment 11: Possible in the Central Region; Low suitability roosting habitat was observed. Unlikely in the Northern and Southern Regions; Marginal roosting habitat south of the ANF.</p>
BIRDS			
California Condor <i>Gymnogyps californianus</i>	FE, SE	Requires vast expanses of open savannahs, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Nests in clefts of rocky walls of deep canyons. Can forage up to 100 miles from roost/nest.	<p>Segment 4: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 6: Possible. Nesting habitat is present in the ANF. Individuals have been recorded in the ANF in the recent past. Unlikely in the Northern Region; No suitable breeding habitat exists and this segment lies outside the known range of the species.</p> <p>Segment 7: Likely. Condors are roosting within ANF</p> <p>Segment 8: Unlikely. Segment is well outside of current known range. No nesting habitat and only marginal foraging habitat. There is a potential for condors to fly over the area once their range is expanded over the life of the Project.</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 11: Present in the Central and Southern Regions; Nesting habitat is present in the ANF. Individuals are roosting within 2 miles of the Project area. Historic nesting occurred within Eaton Canyon. Unlikely in the Northern Region; No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Bald Eagle <i>Haliaeetus leucocephalus</i>	FSS, SE	Nests on large trees in the vicinity of large lakes, reservoirs and rivers. Wintering birds are most often found near large concentrations of waterfowl or fish.	<p>Segment 4: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 6: Possible in the Central Region only; Nesting habitat is absent. Foraging habitat at nearby Cogswell Reservoir is marginal. Confirmed wintering on ANF at Littlerock Reservoir (L. Welch, District Biologist; pers. comm.). Unlikely in the Northern Region; No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 7: Possible. Nesting habitat is absent. Foraging habitat in San Gabriel River at Santa Fe Dam and Whittier Narrows is marginal. Bald Eagles have been seen in flight above Santa Fe Dam.</p> <p>Segment 8: Present. Bald Eagles have been documented utilizing the Whittier Narrows area in winter 2008. Bald Eagles have been utilizing the Chino Hills State Park Area.</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 11: Possible. Nesting habitat is absent. Foraging habitat at nearby Big Tujunga Reservoir is marginal. Confirmed wintering on ANF at Littlerock Reservoir (L. Welch, District Biologist; pers. comm.). Possible in the Southern Region; Bald Eagles have been detected flying along the urban area below the San Gabriel Mountains. These eagles are thought to be utilizing this area as a corridor to other areas. Foraging habitat is limited to Sawpit Reservoir, San Gabriel River, and Santa Fe Dam. Nesting habitat is limited. Unlikely in the Northern Region; No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p>
Golden Eagle <i>Aquila chrysaetos</i> (nesting and wintering)	CDFG WL, CDFG FP	Forages in open grasslands, desert scrub and agricultural fields. Nests on ledges on cliff faces, rock outcrops and occasionally in large trees.	<p>Segment 4: Present: Observed during reconnaissance surveys conducted in 2007. Suitable foraging habitat present throughout</p> <p>Segment 5: Possible. Suitable foraging habitat is present throughout</p> <p>Segment 6: Possible. Habitats open enough to provide foraging habitat are absent from the ANF.</p> <p>Segment 7: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 8: Present. Species is known to have nested recently in the Puente/Chino Hills and observed in 2000. Foraging birds observed in the Puente Hills Landfill Native Habitat Preservation Authority lands.</p> <p>Segment 10: Present. Observed during reconnaissance surveys conducted in 2007. Suitable foraging habitat present throughout.</p> <p>Segment 11: Present in the Southern Region; This species is known to nest within the Arroyo Seco. Likely in tehCentral Region; Habitats open enough to provide foraging habitat are absent from the ANF. Golden Eagles have known to nest in Arroyo Seco Canyon. Possible in the Northern Region; Suitable foraging habitat is present.</p>
Cooper's Hawk <i>Accipiter cooperii</i> (nesting)	CDFG WL	Nests in woodlands, and sometimes, suburban settings if mature trees are present. Forages in many habitats in winter and migration.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Unlikely. Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains. Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Likely. Suitable nesting habitat in riparian at Whittier Narrows and in suburban areas with mature trees.</p> <p>Segment 8: Present. Suitable nesting habitat in the Puente/Chino Hills and marginal nesting habitat in suburban areas with mature trees. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands. Observed outside of nesting season during surveys conducted in 2000 and 2007.</p> <p>Segment 11: Likely. Suitable nesting habitat in the San Gabriel foothills and marginal nesting habitat in suburban areas with mature trees. Observed outside of nesting season. Unlikely in the Central Region; Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains. Unlikely in the Northern Region; No</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			suitable habitat exists, and this segment lies outside the known range of the species.
Ferruginous Hawk <i>Buteo regalis</i> (wintering)	CDFG WL	Forages in grasslands and agricultural fields.	<p>Segment 4: Possible. Known to occur in the Antelope Valley during winter.</p> <p>Segment 5: Possible. Known to occur in the Antelope Valley during winter.</p> <p>Segment 6: Unlikely. Not likely to occur due to lack of foraging habitat.</p> <p>Segment 7: Unlikely. Foraging habitat is absent.</p> <p>Segment 8: Present. Potential foraging habitat for wintering and migrating birds is present in agricultural habitats east of Chino.</p> <p>Segment 10: Possible. Known to occur in the Antelope Valley during winter.</p> <p>Segment 11: Unlikely. Not likely to occur due to lack of foraging habitat.</p>
Sharp-shinned Hawk <i>Accipiter striatus</i> (nesting)	CDFG WL	Nests in conifer and riparian forests, preferably on north facing slopes near water. Forages in many habitats in winter and migration.	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 6: Possible in the Central Region; There is some suitable nesting habitat in the densely wooded habitats through the ANF. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p> <p>Segment 7: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 8: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Possible in the Central Region; There is some suitable nesting habitat in the densely wooded habitats through the ANF. Unlikely in the Northern and Southern Regions; Does not occur due to lack of habitat.</p>
Swainson's Hawk <i>Buteo swainsoni</i>	ST, FSS	Nests in trees near foraging areas that include grasslands and agricultural croplands, especially alfalfa.	<p>Segment 4: Likely. Known to nest adjacent to alfalfa fields within 5 miles. Suitable foraging habitat present within agricultural habitats.</p> <p>Segment 5: Unlikely. Few records of wintering or migrant.</p> <p>Segment 6: Unlikely. Alignment is outside breeding range. Possible in migration, though foraging habitat along alignment is marginal. There are few records of wintering or migrant individuals in the Northern Region.</p> <p>Segment 7: Unlikely. Segment is outside breeding range. Possible in migration, though foraging habitat is marginal.</p> <p>Segment 8: Present. Segment is outside breeding range. There are records of migrating birds. Migrants observed in the Puente Hills Landfill Native Habitat Preservation Authority lands.</p> <p>Segment 10: Unlikely. Few records of wintering or migrant individuals.</p> <p>Segment 11: Unlikely. Few records of wintering or migrant individuals in the Northern Region. The Southern and Central Regions are outside breeding range. Possible in migration, though foraging habitat is marginal.</p>
Northern Goshawk <i>Accipiter gentilis</i>	FSS, CSSC (nesting)	Nests in old growth stands of conifer and conifer/hardwood forests.	<p>Segment 4: Unlikely. Suitable habitat is absent</p> <p>Segment 5: Unlikely. Suitable habitat is absent</p> <p>Segment 6: Unlikely. Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains.</p> <p>Segment 7: Unlikely. Suitable habitat is absent</p> <p>Segment 8: Unlikely. Suitable habitat is absent</p> <p>Segment 10: Unlikely. Suitable habitat is absent</p> <p>Segment 11: Unlikely. Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Northern Harrier <i>Circus cyaneus</i>	CSSC (nesting only)	Breeds and forages in emergent wetlands and nearby open grasslands, fallow fields. Also forages in agricultural fields and desert scrub.	Segment 4: Unlikely. Suitable habitat is absent Segment 5: Unlikely. Suitable habitat is absent Segment 6: Unlikely. Suitable habitat is absent Segment 7: Unlikely. Nesting habitat is absent, and only marginal foraging habitat is present. Segment 8: Present: Observed in Puente Hills Landfill Native Habitat Preservation Authority lands during surveys conducted in 2000, 2002, and 2005. Segment 10: Unlikely. Suitable habitat is absent Segment 11: Unlikely. Nesting habitat is absent, and only marginal foraging habitat is present.
Osprey <i>Pandion haliaetus</i> (nesting)	CDFG WL	Breeds in variety of habitats with shallow water and large fish, including boreal forest ponds, desert salt-flat lagoons, temperate lakes, and tropical coasts. Winters along large bodies of water containing fish.	Segment 4: Unlikely. This is generally a coastal species but may be found near large bodies of water inland. Segment 5: Unlikely. This is generally a coastal species but may be found near large bodies of water inland. Segment 6: Present. This species has been detected in the East and West Fork of the San Gabriel River. This species has been observed above the settling ponds of the San Gabriel River near the San Gabriel Mountains Segment 7: Possible. Suitable habitat exists at the Whittier Narrows Recreation Area. Segment 8: Possible. Suitable habitat exists at the Whittier Narrows Recreation Area. Segment 10: Unlikely. This is generally a coastal species but may be found near large bodies of water inland. Segment 11: Possible. This species has been documented in the Central Region. Known from the ANF (pers. comm.. P. Krueger, FS)
Merlin <i>Falco columbarius</i> (wintering)	CDFG WL	Boreal forests, coastal forests, prairies, and shrub-steppes.	Segment 4: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 5: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 6: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 7: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 8: Likely. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 10: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area. Segment 11: Possible. This species is a winter migrant in California and suitable habitat is present within the Project area.
Peregrine Falcon <i>Falco peregrines</i> (nesting)	FD, SCD, CDFG FP,	Nests on cliff ledges, and forages where there are large concentrations of birds.	Segment 4: Unlikely. A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds. Segment 5: Unlikely. A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds. Segment 6: Present. Migrants are widespread. Marginal nesting habitat occurs in the vicinity of Big Tujunga Canyon. Unlikely in the Northern Region; A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds. Peregrine falcons have been seen in the Arroyo Seco near Hahamonga Park. Segment 7: Possible. Migrants are widespread. Nesting habitat and habitats that would attract Peregrine Falcons for prolonged periods are absent. Segment 8: Present. Recorded near Mira Loma substation and observed in 2005 near Harbor Blvd. in the Puente Hills Landfill Native Habitat Preservation Authority lands. Nesting habitat is absent. Dispersing birds could be attracted to shorebirds foraging in dairy ponds east of Chino

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			<p>Segment 10: Unlikely. A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds</p> <p>Segment 11: Present. Migrants are widespread. Peregrine falcons are present in the Arroyo Seco. Nesting occurs in Upper Big Tujunga near the confluence of Falls Creek. Unlikely in the Northern Region; A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds.</p>
<p>Prairie Falcon <i>Falco mexicanus</i> (nesting)</p>	<p>CDFG WL</p>	<p>Forages in desert scrub, grasslands, agricultural fields and Joshua tree woodland. Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands.</p>	<p>Segment 4: Present. No suitable nesting substrates or nests found within 0.5 miles. Foraging habitat is present throughout. Observed during habitat surveys in 2007.</p> <p>Segment 5: Possible. No suitable nesting substrates or nests found within 0.5 miles. Foraging habitat is present throughout.</p> <p>Segment 6: Possible in the Northern Region only; No suitable nesting substrates or nests were found within 0.5 miles. Foraging habitat is present throughout. Unlikely in the Southern Region; suitable habitat is not available.</p> <p>Segment 7: Unlikely. Suitable habitat is not available.</p> <p>Segment 8: Unlikely. Suitable habitat is not available.</p> <p>Segment 10: Possible. No suitable nesting substrates or nests found within 0.5 miles. Foraging habitat is present throughout.</p> <p>Segment 11: Possible in the Northern Region only; No suitable nesting substrates or nests were found within 0.5 miles. Foraging habitat is present throughout. Unlikely in the Southern and Central Regions; suitable habitat is not available.</p>
<p>White-tailed Kite <i>Elanus leucurus</i> (nesting)</p>	<p>CDFG FP</p>	<p>Forages in open grasslands, desert scrub and agricultural fields. Nests on trees and large shrubs.</p>	<p>Segment 4: Possible. Rare and local breeder in Antelope Valley, with no confirmed breeding in the vicinity. More common during the winter, and likely to forage in this segment.</p> <p>Segment 5: Possible. Rare and local breeder in Antelope Valley, with no confirmed breeding in the vicinity. More common during the winter, and likely to forage in this segment.</p> <p>Segment 6: Unlikely. Habitats open enough to provide foraging habitat are absent from the alignment through the ANF. However foraging habitat is marginally suitable in the Northern Region.</p> <p>Segment 7: Possible. Rare and local breeder, with no confirmed breeding in this segment. More common during the winter, and likely to forage in this segment.</p> <p>Segment 8: Present. Rare and local breeder, with no confirmed breeding in this segment. Observed in Puente Hills Landfill Native Habitat Preservation Authority lands in 2000, 2002, and 2005.</p> <p>Segment 10: Possible. Rare and local breeder in Antelope Valley, with no confirmed breeding in the vicinity. More common during the winter, and likely to forage in this segment.</p> <p>Segment 11: Possible. Rare and local breeder, with no confirmed breeding in this segment. More common during the winter, and likely to forage in this area. Unlikely in the Central and Northern Regions; Habitats open enough to provide foraging habitat are absent from the alignment through the ANF. However, foraging habitat is marginally suitable in the Northern Region.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Burrowing Owl <i>Athene cunicularia</i>	CSSC	Found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals, such as ground squirrels.	<p>Segment 4: Possible. Suitable foraging habitat and CA ground squirrel burrows that could provide breeding habitat are present</p> <p>Segment 5: Unlikely. Suitable foraging habitat is present, though California ground squirrel burrows or other burrows that could provide breeding habitat were not observed.</p> <p>Segment 6: Likely in the Central Region; Observed within the ANF boundary in a private in-holding near Kentucky Springs. Foraging and nesting habitat is absent within the ANF. Possible in the Northern Region; Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present.</p> <p>Segment 7: Possible: some suitable habitat in open areas along the San Gabriel River where burrows are present in the upper banks of waterways in open habitats.</p> <p>Segment 8: Present: Observed in agricultural habitats east of Chino during reconnaissance surveys conducted in 2007. Also recorded at the Mira Loma substation, Sycamore Canyon, and Arroyo San Miguel in 1999 and 2006.</p> <p>Segment 10: Present. Suitable foraging habitat and CA ground squirrel burrows that could provide breeding habitat are present.</p> <p>Segment 11: Possible in the Northern Region only; Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present. Unlikely in the Central and Southern Regions; Foraging and nesting habitat is absent.</p>
California Spotted Owl <i>Strix occidentalis occidentalis</i>	FSS, CSSC	In southern California occupies montane hardwood and montane hardwood/conifer forests with dense, multi-layered canopies.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Present in Central Region only; Detected in Canyon Oak Forest and Bigcone Douglas Fir-Canyon Oak Forest habitats along the alignment. Unlikely in Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 8: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Present in Central Region only; Detected in Canyon Oak Forest and Bigcone Douglas Fir-Canyon Oak Forest habitats along the alignment. Unlikely in Northern and Southern Regions; No suitable habitat exists, and this segment lies outside the known range of the species.</p>
Long-eared Owl <i>Asio otus</i> (nesting)	CSSC	Breeds in thickly vegetated desert washes and oases, montane coniferous forests and in riparian and pinyon-juniper woodlands. Requires adjacent open habitats for foraging.	<p>Segment 4: Possible. Observed roosting in the tamarisk in the vicinity. Could forage in open habitats.</p> <p>Segment 5: Possible. Observed roosting in the vicinity. Could forage in open habitats.</p> <p>Segment 6: Possible. Observed roosting in the vicinity. Could forage in open habitats Unlikely in the Central Region; Habitats open enough to provide foraging habitat are absent from the ANF.</p> <p>Segment 7: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 8: Possible. Suitable nesting habitat in the Puente/Chino Hills where there are historical records.</p> <p>Segment 10: Possible. Observed roosting in the vicinity. Could forage in open habitats.</p> <p>Segment 11: Possible in the Northern Region; Has been observed roosting in the vicinity. Could forage in open habitats. Unlikely in the Central Region; Habitats open enough to provide foraging habitat are absent from the ANF. Unlikely in the Southern Region; Foraging and nesting habitat is absent.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Short-eared Owl <i>Asio flammeus</i> (nesting)	CSSC	Breeds in marshes or in nearby moist grasslands or fallow fields. Forages in the same habitats but may also forage in agricultural fields and dry grasslands.	<p>Segment 4: Possible: Suitable breeding habitat is absent. It is likely to occur as a wintering bird, especially in the grasslands and agricultural fields.</p> <p>Segment 5: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 6: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 7: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 8: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 10: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 11: Unlikely: Does not occur due to lack of habitat.</p>
Western Burrowing Owl <i>Athene cuniculari</i> (burrowing sites and some wintering sites)	CSSC	Found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals, such as ground squirrels.	<p>Segment 4: Possible. Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present.</p> <p>Segment 5: Unlikely. Suitable foraging habitat is present, though California ground squirrel burrows or other burrows that could provide breeding habitat, were not observed.</p> <p>Segment 6: Likely. Observed within the ANF boundary in a private inholding near Kentucky Springs. Foraging and nesting habitat is absent within the ANF. Possible in the Northern Region; Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present.</p> <p>Segment 7: Possible. Some suitable habitat in open areas along the San Gabriel River where burrows are present in the upper banks of waterways in open habitats.</p> <p>Segment 8: Present. Observed in agricultural habitats east of Chino during reconnaissance surveys conducted in 2007. Also recorded at the Mira Loma substation, Sycamore Canyon, and Arroyo San Miguel in the Puente Hills Landfill Native Habitat Preservation Authority lands in 1999 and 2006.</p> <p>Segment 10: Present. Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present.</p> <p>Segment 11: Possible in the Northern Region; Suitable foraging habitat and California ground squirrel burrows that could provide breeding habitat are present. Unlikely in the Central and Southern Regions; Foraging and nesting habitat is absent.</p>
Bell's Sage Sparrow <i>Amphispiza belli belli</i>	CDFG WL	Found in shrubby habitats including coastal sage scrub and chaparral, primarily of the chamise type.	<p>Segment 4: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 6: Likely in the Central Region only; Suitable nesting habitat occurs at the south end of the ANF. There are historical nesting records nearby. Unlikely in the Northern Region; No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 7: Possible. Some suitable coastal sage scrub at the north end of this segment.</p> <p>Segment 8: Present. Some suitable nesting habitat remains in the Puente/Chino Hills, where there are historical/recent records.</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 11: Likely. Suitable nesting habitat occurs at the southern ANF boundary. There are historical nesting records nearby. Possible in the Southern Region; There is some suitable coastal sage scrub near the border with the ANF. Unlikely in the Northern Region; No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Southern California Rufous-crowned Sparrow <i>Aimophila ruficeps canescens</i>	CDFG WL	Sparse low brush, especially sage, located on grassy hill slopes and rocky hillsides.	<p>Segment 4: Unlikely. Due to lack of habitat.</p> <p>Segment 5: Unlikely. Due to lack of habitat.</p> <p>Segment 6: Possible. Suitable nesting habitat occurs at the south end of ANF. Unlikely in Northern Region due to lack of habitat.</p> <p>Segment 7: Possible. Suitable nesting habitat occurs of the north end of this segment.</p> <p>Segment 8: Present. Observed in Chino Hills during surveys conducted in 2000, 2002, 2005, and 2007. Suitable nesting habitat occurs in the Puente/Chino Hills. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands in 2000 and 2005.</p> <p>Segment 10: Unlikely. Due to lack of habitat.</p> <p>Segment 11: Present in the Central and Southern Regions; Observed in suitable nesting habitat that occurs at the southern ANF boundary. Also observed in San Gabriel foothills south of the ANF during surveys conducted in 2007. Unlikely in the Northern Region Due to lack of habitat.</p>
Black Swift <i>Cypseloides niger</i> (nesting)	CSSC	Nests behind or beside permanent or semi-permanent waterfalls on perpendicular cliffs near water, and in sea caves.	<p>Segment 4: Unlikely. Outside the known range for this species.</p> <p>Segment 5: Unlikely. Outside the known range for this species.</p> <p>Segment 6: Possible in the Central Region. Two nesting sites documented in the San Gabriel Mountains. Unlikely in the Northern Region; outside the known range for this species.</p> <p>Segment 7: Unlikely. Outside the known range for this species.</p> <p>Segment 8: Unlikely. Outside the known range for this species.</p> <p>Segment 10: Unlikely. Outside the known range for this species.</p> <p>Segment 11: Possible in the Central Region. Two nesting sites documented in the San Gabriel Mountains. Unlikely in the Northern and Southern Regions; outside the known range for this species.</p>
Vaux's Swift <i>Chaetura vauxi</i> (nesting)	CSSC	Nests in tree cavities and less frequently in artificial structures. Cavities must be large enough to fly into.	<p>Segment 4: Unlikely. Outside the known range for this species.</p> <p>Segment 5: Unlikely. Outside the known range for this species.</p> <p>Segment 6: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p> <p>Segment 7: Unlikely. Outside the known range for this species.</p> <p>Segment 8: Unlikely. Outside the known range for this species.</p> <p>Segment 10: Unlikely. Outside the known range for this species.</p> <p>Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Coastal California Gnatcatcher <i>Poliioptila californica californica</i>	FT, CSSC	Coastal sage scrub habitats of southern California coastal slope, generally below 950 feet.	<p>Segment 4: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Possible. Some marginally suitable habitat in San Gabriel foothills. Gnatcatcher was detected in the city of Arcadia, below the Forest boundary. Historic sightings have been found in Big Santa Anita Wash and Monrovia (Garrett 1993). Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 7: Present. Observed in the Montebello Hills in 2005.</p> <p>Segment 8: Present. Observed in the Montebello and Puente Hills Landfill Native Habitat Preservation Authority lands in 2005.</p> <p>Segment 10: Unlikely. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Possible. Some marginally suitable habitat in San Gabriel foothills. Historic sightings of gnatcatchers have been found in Arroyo Seco, Rubio Canyon, and Pasadena (Garrett 1993). Unlikely in the Northern Region; No suitable habitat exists, and this segment lies outside the known range of the species. Unlikely in the Southern Region; Though there is some marginally suitable habitat in San Gabriel foothills, this area is outside, and higher in elevation, than species' known distribution</p> <p>CRITICAL HABITAT FOR THIS SPECIES IS DESIGNATED IN SEGMENTS 7 AND 8.</p>
Gray Vireo <i>Vireo vicinior</i> (nesting)	CSSC	Found in desert scrub, mixed juniper or pinyon pine and oak scrub associations, and chaparral, in hot, arid mountains and high plains scrubland.	<p>Segment 4: Unlikely. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 5: Unlikely. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 6: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p> <p>Segment 7: Unlikely. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 8: Unlikely. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 10: Unlikely. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p>
Least Bell's Vireo <i>Vireo bellii pusillus</i>	SE, FE	Dense riparian scrub including willows and mulefat.	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Possible. Potentially suitable breeding habitat along Amargosa Creek.</p> <p>Segment 6: Possible: Suitable habitat occurs in drainages in the San Gabriel foothills. Sightings occurred in Fish Canyon in 1974 and Van Tassel in 1975 (US Army Corps of Engineers 1994). Nesting of vireos below San Gabriel Reservoir in 1983 (Forest Records). In 2000, vireos were observed in Little Rock. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p> <p>Segment 7: Present. Occurs at Whittier Narrows and in San Gabriel River, and Santa Fe Dam. Records in 2008 show this species at Whittier Narrows and San Gabriel River.</p> <p>Segment 8: Present. Observed at Whittier Narrows where there are several historical occurrences. Also a single male observed in Sycamore Canyon in 2005 in the Puente Hills Landfill Native Habitat Preservation Authority lands.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Possible in the Central and Southern Regions; Suitable habitat occurs in drainages in the San Gabriel foothills. In 2000, sightings occurred in Big Tujunga Canyon. In 1993, vireos were detected at the Sunnyside Debris Basin in Pasadena. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
LeConte's Thrasher <i>Toxostoma lecontei</i>	CSSC	Occurs in desert scrub habitats, open washes, and Joshua tree woodland.	<p>Segment 4: Possible. Suitable habitat is present in desert washes and desert scrub.</p> <p>Segment 5: Possible. Suitable habitat is present in desert washes and desert scrub communities.</p> <p>Segment 10: Present. Recorded. Suitable habitat is present in desert washes and desert scrub communities.</p> <p>Segment 6: Possible in the Northern Region; Suitable habitat is present in desert washes and desert scrub. Unlikely in the Central Region; Suitable habitat is absent.</p> <p>Segment 7: Unlikely. Suitable habitat is absent</p> <p>Segment 8: Unlikely. Suitable habitat is absent</p> <p>Segment 11: Possible in the Northern Region; Suitable habitat is present in desert washes and desert scrub. Unlikely in the Central and Southern Regions; Suitable habitat is absent.</p>
California Horned Lark <i>Eremophila alpestris actia</i>	CDFG WL	Occurs in open habitats, forages in bare dirt in short and/or sparse grassland and areas of scattered shrubs.	<p>Segment 4: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 5: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 6: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 7: Possible; Marginally suitable nesting habitat in the disturbed and ruderal habitats.</p> <p>Segment 8: Present; Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands during surveys conducted in 2000.</p> <p>Segment 10: Unlikely. Foraging and nesting habitat is absent.</p> <p>Segment 11: Unlikely. Foraging and nesting habitat is absent.</p>
Loggerhead Shrike <i>Lanius ludovicianus</i>	CSSC	Nests in isolated tall shrubs and dense trees (including Joshua trees) in open landscapes. Forages in desert scrub, agricultural fields, grasslands, and Joshua tree woodlands.	<p>Segment 4: Present. Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant.</p> <p>Segment 5: Present. Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant.</p> <p>Segment 6: Present. Observed in the Northern Region during reconnaissance surveys conducted in 2007. Suitable habitat is abundant in the Northern Region. Observed within the ANF boundary in a private inholding near Kentucky Springs. Foraging and nesting habitat is absent from this alignment within the ANF.</p> <p>Segment 7: Likely. Suitable foraging and nesting habitat present at Whittier Narrows and much of this segment.</p> <p>Segment 8: Present. Suitable foraging and nesting habitat present at Whittier Narrows, the Puente/Chino Hills, and much of this segment. A pair was observed on Segment 8C during surveys conducted in 2007. Individual observed in Puente Hills Landfill Native Habitat Preservation Authority lands in 2000.</p> <p>Segment 10: Present Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant.</p> <p>Segment 11: Present in the Northern Region; Observed in the Northern Region during reconnaissance surveys conducted in 2007. Suitable habitat is abundant in the Northern Region. Likely in the Southern Region; There is suitable foraging and nesting habitat in the San Gabriel foothills. Unlikely in the Central Region; Habitats open enough to provide foraging habitat are absent from the alignment through the ANF.</p>
Olive-sided Flycatcher <i>Contopus cooperi</i> (nesting)	CSSC	Nests in late-successional coniferous forests with open canopies.	<p>Segment 4: Unlikely. Outside the known range for this species.</p> <p>Segment 5: Unlikely. Outside the known range for this species.</p> <p>Segment 6: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p> <p>Segment 7: Unlikely. Outside the known range for this species.</p> <p>Segment 8: Unlikely. Outside the known range for this species.</p> <p>Segment 10: Unlikely. Outside the known range for this species.</p> <p>Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> (nesting)	SE, FE	Breeds in densely vegetated riparian associations of cottonwoods and willows	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Unlikely. Marginally suitable breeding habitat along Amargosa.</p> <p>Segment 6: Present in the Central Region; Riparian habitat within the ANF is marginally suitable. Individuals thought to be migrating through have been documented in West Fork San Gabriel River and Little Rock. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p> <p>Segment 7: Possible. Potential habitat at Whittier Narrows is only marginally suitable, and this species has not been recorded there. Migrant Willow Flycatchers, most likely of more northerly subspecies, are likely. Possibility of this species in the San Gabriel River Channel or Rio Hondo River Channel near Whittier Narrows.</p> <p>Segment 8: Possible. Potential habitat at Whittier Narrows is only marginally suitable and this species has not been recorded there. Migrant Willow Flycatchers, most likely of more northerly subspecies, are likely.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Possible in the Central and Southern Regions; Riparian habitat within the ANF is marginally suitable. Individuals thought to be migrating through have been documented in Lynx Gulch, Upper Big Tujunga Canyon, and Big Tujunga Canyon. Potential habitat in San Gabriel foothills is only marginally suitable, and this species has not been recorded there. Migrant Willow Flycatchers, most likely of more northerly subspecies, are likely. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p>
Vermilion Flycatcher <i>Pyrocephalus rubinus</i> (nesting)	CSSC	Nests in desert riparian and landscaped cottonwoods and other trees in developed areas including golf courses; often near agricultural or grassland areas.	<p>Segment 4: Possible: Potential nesting habitat in the trees along roads and near houses on the Antelope Valley floor, especially in the vicinity of alfalfa fields.</p> <p>Segment 5: Possible: Potentially suitable breeding habitat along Amargosa Creek.</p> <p>Segment 6: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 7: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 8: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 10: Unlikely: Does not occur due to lack of habitat.</p> <p>Segment 11: Unlikely: Does not occur due to lack of habitat.</p>
Summer Tanager <i>Piranga rubra</i> (nesting)	CSSC	Breeds in mature, desert riparian habitats dominated by cottonwood and willow.	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Possible. Potentially suitable breeding habitat along Amargosa Creek.</p> <p>Segment 6: Possible. Suitable habitat in some riparian habitats in the San Gabriel Mountains. Known from Little Rock Creek.</p> <p>Segment 7: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 8: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Possible. Suitable habitat in some riparian habitats in the San Gabriel Mountains. Known from Little Rock Creek. Unlikely in the Northern and Southern Regions; Does not occur due to lack of habitat.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Tricolored Blackbird <i>Agelaius tricolor</i> (nesting colony)	CSSC	Nests in freshwater emergent wetlands, nettle, thistle, willow riparian thickets, and in crops such as alfalfa and safflower.	<p>Segment 4: Possible. Foraging birds are expected to occur in agricultural habitats. Nesting habitat is absent.</p> <p>Segment 5: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 6: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 7: Likely. Records of nesting from Legg Lake. Marginal nesting and foraging habitat elsewhere on the alignment.</p> <p>Segment 8: Present. Observed in agricultural/dairy habitats east of Chino during reconnaissance surveys conducted in 2007. Marginal nesting habitat was also observed there, though there was no evidence of nesting. Records of nesting from Legg Lake.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Unlikely. Foraging and nesting habitat is absent.</p>
Yellow-headed Blackbird <i>Xanthocephalus xanthocephalus</i> (nesting)	CSSC	Breeds in prairie wetlands and along other western lakes and marshes where tall reeds and rushes are present. Forages in the wetlands and in surrounding grasslands and croplands. In winter large flocks forage in agricultural areas.	<p>Segment 4: Unlikely. Outside the known range for this species.</p> <p>Segment 5: Unlikely. Outside the known range for this species.</p> <p>Segment 6: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p> <p>Segment 7: Unlikely. Outside the known range for this species.</p> <p>Segment 8: Unlikely. Outside the known range for this species.</p> <p>Segment 10: Unlikely. Outside the known range for this species.</p> <p>Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).</p>
Yellow Warbler <i>Dendroica petechia</i> (nesting)	CSSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 6: Likely. Suitable habitat is present in riparian habitats in the San Gabriel Mountains. Unlikely in the Northern Region due to lack of habitat.</p> <p>Segment 7: Likely. Suitable nesting habitat is present at the Rio Hondo and Whittier Narrows</p> <p>Segment 8: Likely. Suitable nesting habitat is present at the Rio Hondo, Whittier Narrows, and in riparian habitats in Chino Hills. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands in 2000.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Present in the Central Region; Nesting pairs have been recorded in the Arroyo Seco. Suitable habitat is present in riparian habitats in the San Gabriel Mountains. Likely in the Southern Region; There is suitable habitat in some riparian areas in San Gabriel foothills including Arroyo Seco and Eaton Wash. Unlikely in the Northern Region due to lack of habitat.</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Yellow-breasted Chat <i>Icteria virens</i> (nesting)	CSSC	Breeds in riparian habitats with dense understory vegetation, such as willow and blackberry.	<p>Segment 4: Unlikely. No suitable habitat exists.</p> <p>Segment 5: Unlikely. No suitable habitat exists.</p> <p>Segment 6: Possible. Suitable habitat in some riparian habitats such as Big Tujunga Creek. Unlikely in the Northern Region; No suitable habitat exists.</p> <p>Segment 7: Possible. Suitable habitat in the Whittier Narrows.</p> <p>Segment 8: Present. Observed in Whittier Narrows and riparian habitats in the Chino Hills during 2007. Also observed in Puente Hills in 2000, 2002, and 2005 and specifically within the Puente Hills Landfill Native Habitat Preservation Authority lands in 2000 and 2005.</p> <p>Segment 10: Unlikely. No suitable habitat exists.</p> <p>Segment 11: Possible in the Central and Southern Regions; Suitable habitat in some riparian areas in San Gabriel foothills, including Arroyo Seco and Big Tujunga Creek. Unlikely in the Northern Region; No suitable habitat exists.</p>
Western Yellow-billed Cuckoo <i>Coccyzus americanus</i> (nesting)	FC, SE, FSS	Breeds in densely vegetated riparian associations of cottonwoods and willows	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Unlikely. Marginally suitable breeding habitat along Amargosa Creek.</p> <p>Segment 6: Unlikely. Riparian habitat within the ANF is marginally suitable and species has not been recorded within this region.</p> <p>Segment 7: Unlikely. Potential habitat at the Rio Hondo and Whittier Narrows are only marginally suitable, and this species has not been recorded there</p> <p>Segment 8: Unlikely. Potential habitat at Rio Hondo, Whittier Narrows, and in drainages in the Puente/Chino Hills are only marginally suitable, and this species has not been recorded there.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Unlikely. Potential habitat in San Gabriel foothills is only marginally suitable, and this species has not been recorded within this region.</p>
Mountain Plover <i>Charadrius montanus</i>	CSSC	Winters in short grasslands and agricultural fields. Breeds in short-grass prairies outside of California.	<p>Segment 4: Possible. Wintering flocks annually occur in agricultural fields in the Antelope Valley. The alfalfa fields are the most likely locations for this species, but they may also visit the numerous grasslands in the Project area.</p> <p>Segment 5: Unlikely. Plovers wintering in the Antelope Valley primarily occur in agricultural fields, which are absent. There is a possibility that they may forage in the numerous grasslands in the Project area.</p> <p>Segment 6: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 7: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 8: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 11: Unlikely. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p>
Brant <i>Branta bernicla</i>	CSSC	Inhabits well protected, shallow marine waters.	<p>Segment 4: Unlikely. Segment is outside of the range for this species and no suitable habitat exists.</p> <p>Segment 5: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p> <p>Segment 6: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p> <p>Segment 7: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p> <p>Segment 8: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p> <p>Segment 10: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p> <p>Segment 11: Unlikely. Segment is outside of the range for this species and no suitable habitat exists</p>

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Common Loon <i>Gavia immer</i> (nesting)	CSSC	Loons nest on lakes and large ponds. They prefer to nest offshore, on islands, islets, or floating mounds of vegetation in shallow water. In winter, loons migrate to shallow coastal marine habitat.	Segment 4: Unlikely. No suitable habitat exists. Segment 5: Unlikely. No suitable habitat exists. Segment 6: Unlikely. No suitable habitat exists. Segment 7: Unlikely. No suitable habitat exists. Segment 8: Unlikely. Marginal habitat exists in the Whittier Narrows area. Segment 10: Unlikely. No suitable habitat exists. Segment 11: Unlikely. No suitable habitat exists.
Double-Crested Cormorant <i>Phalacrocorax auritus</i> (rookery site)	CDFG WL	Found in diverse aquatic habitats, such as ponds, lakes, rivers, lagoons, estuaries, and open coastline; more widespread in winter.	Segment 4: Unlikely. Generally a coastal species but may migrate through the area. Segment 5: Unlikely. Generally a coastal species but may migrate through the area. Segment 6: Unlikely. Generally a coastal species but may migrate through the area. Segment 7: Unlikely. Generally a coastal species but may migrate through the area. Segment 8: Unlikely. Generally a coastal species but may migrate through the area. Segment 10: Unlikely. Generally a coastal species but may migrate through the area. Segment 11: Possible in the Central Region. Known from the ANF (pers. comm. P. Krueger, FS).
Fulvous whistling-duck <i>Dendrocygna bicolor</i> (nesting)	CSSC	Inhabits freshwater and coastal marshes.	Segment 4: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 5: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 6: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 7: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 8: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 10: Unlikely. Outside of current range of species and no suitable habitat exists. Segment 11: Unlikely. Outside of current range of species and no suitable habitat exists.
Least Bittern <i>Ixobrychus exilis</i>	CSSC (nesting only)	Occurs in marshes and edges of ponds and reservoirs that are covered with tules or cattails.	Segment 4: Unlikely. Suitable habitat is absent. Segment 5: Unlikely. Suitable habitat is absent. Segment 6: Unlikely. Suitable habitat is absent. Segment 7: Likely. There are breeding season records from Legg Lake and Whittier Narrows. Segment 8: Likely. There are breeding season records from Legg Lake and Whittier Narrows. Segment 10: Unlikely. Suitable habitat is absent. Segment 11: Unlikely. Suitable habitat is absent.
Redhead <i>Aythya Americana</i> (nesting)	CSSC	Inhabits marshes, sloughs, ponds and lakes. Generally prefer deep, open water with emergent vegetation.	Segment 4: Unlikely. Suitable habitat is unavailable. Segment 5: Unlikely. Suitable habitat is unavailable. Segment 6: Unlikely. Suitable habitat is unavailable. Segment 7: Possible. Suitable habitat is present. Segment 8: Possible. Suitable habitat is present. Segment 10: Unlikely. Suitable habitat is unavailable. Segment 11: Unlikely. Suitable habitat is unavailable.

Table 3.4-7. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
White-faced Ibis <i>Plegadis chihi</i> (rookery site)	CDFG WL	Forage in marshes, mudflats, shallow rivers, and irrigated croplands. Nest in dense emergent vegetation.	<p>Segment 4: Unlikely. Suitable foraging and nesting habitat is absent</p> <p>Segment 5: Unlikely. Suitable foraging and nesting habitat is absent</p> <p>Segment 6: Unlikely. Suitable foraging and nesting habitat is absent</p> <p>Segment 7: Unlikely. Nesting habitat is absent. Foraging habitat in San Gabriel River at Santa Fe Dam and Whittier Narrows is marginal</p> <p>Segment 8: Present. Observed at east end in Cucamonga Creek and in dairy ponds. However, nesting habitat is absent from Segment 8.</p> <p>Segment 10: Unlikely. Suitable foraging and nesting habitat is absent</p> <p>Segment 11: Unlikely. Suitable foraging and nesting habitat is absent</p>
Wood Stork <i>Mycteria Americana</i>	CSSC	Forage in shallow bays, marshes, canals and drains. They have been known to also forage in well-irrigated agricultural fields.	<p>Segment 4: Unlikely. No suitable habitat exists.</p> <p>Segment 5: Unlikely. No suitable habitat exists.</p> <p>Segment 6: Unlikely. No suitable habitat exists.</p> <p>Segment 7: Unlikely. No suitable habitat exists.</p> <p>Segment 8: Unlikely. Marginal habitat exists in this segment.</p> <p>Segment 10: Unlikely. No suitable habitat exists.</p> <p>Segment 11: Unlikely. No suitable habitat exists.</p>

FT = Federally Threatened Species
 FE = Federally Endangered Species
 FD = Federally Delisted
 PT = Federally Proposed Threatened Species
 FP = Federally Protected Species
 FSS = USDA Forest Service Sensitive Species

ST = State Threatened species
 SE = State Endangered Species
 CSSC = California Species of Special Concern
 CDFG WL = CDFG Watch List Species
 CDFG FP = State Fully Protected Species
 SCD = State Candidate for Delisting

3.4.2.4 Alternative 3: West Lancaster Alternative

Alternative 3 includes a minor re-route of the proposed Project in the West Lancaster area of the Northern Region, as described in Section 2.3. The affected environment for Alternative 3 would be exactly the same as the proposed Project, with regard to Biological Resources. Therefore, the protected habitats and special-status plant and animal species described above in Section 3.4.2.3 apply to Alternative 3 as well as the proposed Project. Habitats occurring within the re-routed portion of this alternative are listed in Table 3.4-8 below. Acres impacted by this alternative are unknown at this time as final engineering has not been completed.

Habitat Type	Acres	Percentage of Total Acreage
California Annual Grassland	351.06	94.21%
Barren/Developed	13.47	3.62%
Desert Wash	6.81	1.83%
Wildflower Field	1.28	0.34%
Total	372.63	100.00%

3.4.2.5 Alternative 4: Chino Hills Route Alternatives

Under Alternative 4, the proposed transmission line would follow the same route as the proposed Project through the Northern and Central Regions. In the Southern Region, Alternative 4 would diverge from the proposed Project route at S8A MP 19.2 and turn to the southeast, crossing through part of Orange County before entering San Bernardino County and the Chino Hills State Park (CHSP/Park).

While all of the same habitats and special-status species described as occurring in the Southern Region (see Section 3.4.2.3) also occur, or have the potential to occur, within Alternative 4, the quantity of these habitats within the Affected Environment of Segment 8A would be different than that of the proposed Project from S8A MP 19.2 to 35.2. In addition, two new habitats (Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub) occur within the proposed alternative alignment as discussed in greater detail below. The proposed routes for Alternative 4 would cross through parts of Orange County, which the proposed Project (Alternative 2) would not enter, and San Bernardino County. The upgrades associated with Segments 8B and 8C would not occur. The routing options for Alternative 4 would also cross through the CHSP and would include a new switching station within or adjacent to the Park. The four different routing options (Routes A through D), which are included under Alternative 4, are discussed in further detail below.

Acres impacted by this alternative are unknown at this time as final engineering has not been completed.

Route A

As described in Section 2.4 (Alternative 4: Chino Hills Route Alternative), this alternative deviates from the proposed Project route at Segment 8A MP 19.2 and parallels the existing Walnut/Olinda-Mira Loma 220-kV transmission line for 6.2 miles, 2.3 miles of which would be within the CHSP. Route A would be situated within an existing utility corridor, but requires that the corridor be widened by 150 feet along the length of Route A. In addition, Route A would require the installation of a new switching station within the CHSP. The new switching station would be a minimum of four to five acres in size and employ gas-insulated technology. Habitats occurring within Route A are listed in Table 3.4-9 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008). Aliso Creek and approximately

11 unnamed drainages and small tributaries would be crossed by Route A, as well several areas of Mixed Chaparral, Recently Burned habitat not previously described. A description of this habitat type and its relation to Route A is provided below.

Habitat Type	Acres	Percentage of Total Acreage
Mixed Chaparral	302.03	35.49%
California Annual Grassland	178.80	21.01%
Mixed Chaparral, Recently Burned	117.99	13.86%
Coastal Sage Scrub	82.56	9.70%
Coast Live Oak Woodland	71.66	8.42%
Southern Coast Live Oak Riparian Forest	40.33	4.74%
California Walnut Woodland	25.05	2.94%
Barren/Developed	18.21	2.14%
Bunchgrass Grassland	7.66	0.90%
Chamise Chaparral	4.17	0.49%
Freshwater Marsh	1.40	0.16%
Ruderal Grassland	0.58	0.07%
Mule Fat Scrub	0.51	0.06%
Southern Arroyo Willow Riparian Forest	0.13	0.02%
Total	851.08	100.00%

Mixed Chaparral, Recently Burned

Throughout the north-central portion of CHSP, and continuing to the northwest within private lands outside of the park, large contiguous stands of Mixed Chaparral occur, bisected by riparian drainages and interspersed with areas of grassland and California walnut woodland. Recently, most likely within the past two years, a significant portion of these mixed chaparral stands were burned. Burn intensity was moderate, clearing the shrub canopy dominated by lemonadeberry, sugarbush, thick-leaved and hairy yerba santa, poison oak, scrub oak, chamise, Mexican elderberry, buckbrush, whitebark lilac, hairy lilac, California Encelia, and bush mallows. Many of these chaparral species were observed to be resprouting from crowns during the 2008 spring surveys. The herbaceous layer is diverse, containing many native species, several of which may be fire-followers to some degree. These included several species of milk vetch (although Brauton’s milk vetch was not observed), blue fiesta flower, common Eucrypta, and phacelias.

Route B

Route B would follow the same path as Route A into the CHSP, but instead of terminating at the new switching station described above, Route B continues to just beyond the eastern Park boundary, eventually terminating at a new switching station outside of the CHSP. As with the Route A alternative, the new switching station for Route B would be a minimum of four to five acres in size. Route B would travel through the CHSP for approximately 4.9 miles. Habitats occurring within Route B are listed in Table 3.4-10 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008). Aliso Creek and approximately 19 unnamed drainages and small tributaries would be crossed by Route B, as well several areas of Mexican Elderberry/Giant Wildrye Scrub habitat not previously described. A description of this habitat type and its relation to Route B is provided below.

Table 3.4-10. Vegetation Types Occurring in the Alternative 4B Re-Route

Habitat Type	Acres	Percentage of Total Acreage
California Annual Grassland	412.20	36.13%
Mixed Chaparral	305.24	26.75%
Mixed Chaparral, Recently Burned	117.99	10.34%
Coastal Sage Scrub	95.78	8.39%
Coast Live Oak Woodland	79.09	6.93%
Barren/Developed	28.81	2.53%
Southern Coast Live Oak Riparian Forest	28.48	2.50%
California Walnut Woodland	20.97	1.84%
Mexican Elderberry/Giant Ryegrass Scrubland	14.37	1.26%
Southern Sycamore Alder Riparian Woodland	12.24	1.07%
Bunchgrass Grassland	9.22	0.81%
Southern Arroyo Willow Riparian Forest	5.11	0.45%
Chamise Chaparral	4.17	0.37%
Southern Willow Scrub	4.04	0.35%
Freshwater Marsh	1.61	0.14%
Mule Fat Scrub	1.09	0.10%
Ruderal Grassland	0.58	0.05%
Total	1140.99	100%

Mexican Elderberry/Giant Wildrye Scrub

Within the eastern portion of CHSP, a matrix of California Annual Grassland and Coastal Sage Scrub is interspersed by scrub areas supporting a relatively high cover (approximately 5%) of arborescent Mexican elderberry and a grassy understory with frequent patches of giant wildrye clones. This association primarily occurred on south-facing exposures of steep, well-drained hillsides. This vegetation type differs from grassland types by providing a tree-like canopy that is relatively tall (approximately 7-12 feet) but sparse, similar to that seen in some savannah vegetation types. The grassy understory of Mexican Elderberry/Giant Wildrye Scrub principally supports herbaceous vegetation typical of annual grasslands, differentiating this vegetation type from Coastal Sage Scrub, although some small subshrubs such as deerweed were observed. Additionally, as giant wildrye culms often reach 6 to 7 feet in height, and leaf-bunches can be 2-feet tall, additional shrub-like structure is provided by this bunchgrass.

Route C

The Route C alternative would deviate from the proposed Project route at Segment 8A MP 19.2 and would parallel the existing Walnut/Olinda-Mira Loma 220-kV transmission line for approximately 4.2 miles to the CHSP boundary. This portion of the alternative would require the existing utility corridor to be widened by an additional 150 feet to accommodate new 500-kV double-circuit structures. Beyond this point, Route C would require a new 300-foot-wide ROW for approximately 1.5 miles as it travels east just north of the CHSP boundary. Route C would require a new switching station adjacent to the CHSP boundary. An additional component of the Route C alternative would be the re-routing of two existing transmission lines located within CHSP, which would require approximately 3.1 miles of new ROW within CHSP. Habitats occurring within Route C are listed in Table 3.4-11 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008). Aliso Creek and approximately 10 unnamed drainages and small tributaries would be crossed by Route C.

Table 3.4-11. Vegetation Types Occurring in the Alternative 4C Re-Route

Habitat Type	Acres	Percentage of Total Acreage
California Annual Grassland	402.56	35.79%
Mixed Chaparral	342.41	30.44%
Coastal Sage Scrub	128.18	11.40%
Mixed Chaparral, Recently Burned	73.26	6.51%
Coast Live Oak Woodland	72.80	6.47%
Southern Coast Live Oak Riparian Forest	32.48	2.89%
California Walnut Woodland	30.94	2.75%
Barren/Developed	22.04	1.96%
Southern Sycamore Alder Riparian Woodland	6.95	0.62%
Chamise Chaparral	4.17	0.37%
Mule Fat Scrub	3.79	0.34%
Southern Willow Scrub	2.31	0.21%
Bunchgrass Grassland	1.39	0.12%
Southern Arroyo Willow Riparian Forest	0.61	0.05%
Ruderal Grassland	0.58	0.05%
Freshwater Marsh	0.22	0.02%
Total	1124.69	100%

Route D

The proposed Route D alternative would follow the same path as the proposed Route C alternative, but instead of terminating at a switching station after paralleling the existing Walnut/Olinda-Mira Loma 220-kV transmission line for approximately 4.2 miles, Route D would continue to follow the western and northern boundary of CHSP for an additional 3.7 miles, approximately, before crossing through 1.4 miles of the Park in a southeasterly direction and terminating at a new switching station just outside the eastern Park boundary. The proposed switching station for Route D would be in the same location as that proposed for the Route B alternative. Habitats occurring within Route D are listed in Table 3.4-12 below. As described above, these habitats also occur within the proposed Project and are described in detail in Appendix H of the *Biological Resources Specialist Report* (Aspen, 2008). Aliso Creek and approximately 28 unnamed drainages and small tributaries would be crossed by Route D.

Table 3.4-12. Vegetation Types Occurring in the Alternative 4D Re-Route

Habitat Type	Acres	Percentage of Total Acreage
Bunchgrass Grassland	1.27	0.11%
California Annual Grassland	428.58	36.33%
California Walnut Woodland	12.22	1.04%
Chamise Chaparral	4.17	0.35%
Coast Live Oak Woodland	73.84	6.26%
Coastal Sage Scrub	143.27	12.15%
Barren/Developed	26.84	2.28%
Freshwater Marsh	0.13	0.01%
Mexican Elderberry/Giant Ryegrass Scrubland	28.67	2.43%
Mixed Chaparral	328.32	27.83%
Mixed Chaparral, Recently Burned	73.26	6.21%
Mule Fat Scrub	2.11	0.18%
Ruderal Grassland	0.58	0.05%
Southern Arroyo Willow Riparian Forest	4.23	0.36%
Southern Coast Live Oak Riparian Forest	39.83	3.38%
Southern Sycamore Alder Riparian Woodland	2.34	0.20%
Southern Willow Scrub	9.93	0.84%

Table 3.4-12. Vegetation Types Occurring in the Alternative 4D Re-Route

Habitat Type	Acres	Percentage of Total Acreage
Total	1179.59	100%

3.4.2.6 Alternative 5: Partial Underground Alternative

As described in Section 2.5, this alternative deviates from the proposed Project by the installation of an underground line through approximately 3.5 miles of the Chino Hills, between MP 21.9 and 25.4 of Segment 8A. This re-route would occur underneath the City of Chino Hills and increase the overall impact acreage of Segment 8 by approximately nine acres (seven acres of barren/developed and two acres of California annual grassland) due to the placement of the two required transition stations.

The portion of Segment 8 that would be re-routed underground for Alternative 5 is primarily located within developed areas of the City of Chino Hills, although the Western Transition Station is located in California annual grassland. Land use on either side of the re-routed segment is characterized as barren/developed. As this alternative would occur along the exact same alignment as the proposed Project and traverse identical habitats, no new biological resources would be introduced. The Affected Environment along the rest of the Alternative 5 route in the Southern Region is identical to the proposed Project. Table 3.4-13 lists the habitats occurring in the Alternative 5 re-route.

Table 3.4-13. Vegetation Types Occurring in the Alternative 5 Re-Route

Habitat Type	Acres	Percentage of Total Acreage
Bunchgrass Grassland	1.18	0.27%
California Annual Grassland	14.45	3.27%
Coast Live Oak Woodland	1.20	0.27%
Coastal Sage Scrub	6.42	1.45%
Barren/Developed	308.74	69.82%
Nonnative Woodland	21.34	4.83%
Ruderal Grassland	79.59	18.00%
Southern Arroyo Willow Riparian Forest	4.00	0.90%
Southern Willow Scrub	0.64	0.14%
Water	4.61	1.04%
Total	442.17	100.00%

3.4.2.7 Alternative 6: Maximum Helicopter Construction in the ANF Alternative

Alternative 6 includes the maximum amount of helicopter construction on the ANF (Segments 6 and 11). This alternative follows the same route for the transmission line as the proposed Project in all three regions, as described in Section 2.6. The affected environment for the Alternative 6 transmission line route, in terms of the habitats present and species potentially impacted, would be the same as the proposed Project, with regard to Biological Resources. Therefore, the unique habitats and special-status plant and animal species described above in Section 3.4.2.3 apply to Alternative 6 as well as the proposed Project. However, preliminary surveys have found that several special-status plant and animal species occur alongside access roads or within spur roads proposed under Alternative 2. Under Alternative 6 these populations would not be adversely impacted because the roads would not be utilized. As compared to the proposed Project, this alternative is expected to decrease the overall impact to biological resources, with the exception of additional noise and disturbance caused by helicopter operation, by limiting the amount of ground disturbance and therefore, loss of vegetation and habitat

This alternative would require eleven helicopter staging and landing areas ranging in size from two acres to over four acres (Figure 2.6-1). All of the locations identified for these areas appear to have well-

maintained access roads and should be accessible for the delivery and staging of materials, equipment, and personnel. As described for the proposed Project, improvements at each of the staging and landing areas would be required and would include clearing of vegetation, and potential grading and cut and fill activities. The removal of pine trees of various age classes would be necessary in order to facilitate helicopter operations at several of the sites. Four of the helicopter staging areas identified for this alternative are the same as sites identified for the proposed Project. See the *TRTP Biological Resources Specialist Report* (Aspen, 2008) for complete descriptions of each site.

As described for the proposed Project, due to the weight capacities and fuel limitations for the helicopters that would be used under this alternative, only those tower locations within an approximate 2.5-mile radius of the staging areas were considered viable candidates for helicopter construction. For the purpose of obtaining a maximum number of tower locations subject to helicopter construction, all of the tower locations that occur within the 2.5-mile radius of each staging area were assumed to require helicopter construction. As a result of this alternative, the construction and/or improvements to access and spur roads associated with these tower locations that would be required under SCE’s proposed Project (Alternative 2) would not occur. Table 3.4-14 lists the habitats occurring in the Alternative 6 Project area in the Central Region.

Habitat Type	Acres	Percentage of Total Acreage
Mixed Chaparral	3065.57	47.30%
Barren/Developed	629.81	9.72%
Canyon Oak Forest	538.44	8.31%
Bigcone Douglas Fir-Canyon Oak Forest	509.46	7.86%
Chamise Chaparral	376.18	5.80%
Deerweed and Chia Herbaceous Field (Recently Burned)	271.35	4.19%
Mojavean Juniper and Pinyon Woodland (Recently Burned)	211.91	3.27%
Scrub Oak Chaparral	188.02	2.90%
Coulter Pine Forest	113.04	1.74%
Interior Live Oak Scrub	107.99	1.67%
Coast Live Oak Woodland	98.37	1.52%
Mojave Pinyon Woodland	60.82	0.94%
Coastal Sage Scrub	54.23	0.84%
Southern Sycamore Alder Riparian Woodland	47.87	0.74%
Southern Coast Live Oak Riparian Forest	43.39	0.67%
Mojave Juniper Woodland and Scrub	33.25	0.51%
Southern Willow Scrub	28.14	0.43%
Nonnative Woodland	18.26	0.28%
California Annual Grassland	15.61	0.24%
Southern Cottonwood Willow Riparian Forest	11.01	0.17%
Recently Burned, Early Successional	10.06	0.16%
California Bay Forest	9.96	0.15%
Big Sagebrush Scrub	9.93	0.15%
Desert Wash	9.17	0.14%
Southern Arroyo Willow Riparian Forest	5.44	0.08%
Recently Burned Mojavean Juniper and Pinyon Woodland	4.19	0.06%
Sparsely Vegetated Streambed	3.07	0.05%
Yellow Pine Forest	2.73	0.04%
Water	2.36	0.04%
Ruderal Grassland	0.88	0.01%
Mule Fat Scrub	0.58	0.01%
Interior Live Oak Forest	0.02	0.00%

Habitat Type	Acres	Percentage of Total Acreage
Total	6481.10	100.00%

3.4.2.8 Alternative 7: 66-kV Subtransmission Alternative

As described in Section 2.7, this alternative is comprised of three 66-kV subtransmission line elements. The first element is the undergrounding of the 66-kV subtransmission line in Segment 7 through the River Commons or Duck Farm Project between S7 MP 8.9 and 9.9. The second element of this alternative includes the rerouting and undergrounding of the 66-kV subtransmission line around Whittier Narrows Recreation Area in Segment 7 between S7 MP 11.4 and 12.025. This element was developed as habitat enhancement for the least Bell’s vireo. The third element consists of rerouting the 66-kV subtransmission line around the Whittier Narrows Recreation Area in Segment 8A between the San Gabriel Junction at S8A MP 2.2 and S8A MP 3.8. This element was also developed as habitat enhancement for the least Bell’s vireo.

The portion of Segment 7 that would be re-routed underground through the Duck Farm Project for Alternative 7 is primarily located within barren/developed areas and ruderal grassland. As this portion of the alternative would occur along the exact same alignment as the proposed Project and traverse identical habitats, no new biological resources would be introduced. The portion of Segment 7 that would be re-routed underground around the Whittier Narrows Recreation Area for Alternative 7 is primarily located within developed areas of the City of South El Monte. Habitat on either side of this underground segment is characterized as barren/developed and non-native woodland. The portion of Segment 8A that would be re-routed aboveground around the Whittier Narrows Recreation Area for Alternative 7 is primarily located within riparian vegetation that has a high weed component. Land use on either side of this aboveground segment is characterized as barren/developed along the western portion of the re-route and open space in the eastern portion of the re-route. Habitats within the re-routed portions of Alternative 7 are listed in Table 3.4-15 below. Acres impacted by this alternative are unknown at this time as final engineering has not been completed.

The Affected Environment along the rest of the Alternative 7 route in the Southern Region is identical to the proposed Project. The Northern and Central Regions would also be identical to the proposed Project.

Habitat Type	Acres	Percentage of Total Acreage
Barren/Developed	141.58	28.18%
Mule Fat Scrub	82.81	16.49%
Ruderal Grassland	80.89	16.10%
Southern Sycamore Alder Riparian Woodland	37.31	7.43%
Nonnative Woodland	23.94	4.77%
Southern Cottonwood Willow Riparian Forest	20.97	4.17%
Water	19.98	3.98%
Agriculture	17.66	3.52%
Southern Willow Scrub	16.69	3.32%
Coastal Sage Scrub	14.90	2.97%
Southern Arroyo Willow Riparian Forest	14.03	2.79%
Exotic – Giant Reed	13.93	2.77%
Mixed Chaparral	4.52	0.90%
Sparsely Vegetated Streambed	4.43	0.88%
Freshwater Marsh	2.90	0.58%
Southern Coast Live Oak Riparian Forest	2.73	0.54%

Habitat Type	Acres	Percentage of Total Acreage
Landscaped Park	1.63	0.32%
Ruderal Wetland	1.30	0.26%
Coast Live Oak Woodland	0.125	0.02%
Total	502.33	100%

3.4.3 Applicable Laws, Regulations, and Standards

Federal and state endangered species legislation gives special status to a number of habitats and plant and animal species known to occur within the proposed Project. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified additional species occurring within the proposed Project. Such species are referred to collectively as “species of special status” and include habitats, plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); animals listed as “fully protected” under the California Fish and Game Code; animals designated as “Species of Special Concern” by the California Department of Fish and Game (CDFG); and plants listed as rare or endangered by the California Native Plant Society (CNPS) in the *Inventory of Rare and Endangered Plants of California* (CNPS 2007).

3.4.3.1 Federal

Federal Endangered Species Act provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The U.S. Fish & Wildlife Service’s (FWS) regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3). Critical habitat is defined in Section 3(5)(A) of the ESA as “(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species.” The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*. Activities that may result in “take” of individuals are regulated by the FWS. The FWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state regulations. The federal Migratory Bird Treaty Act¹ (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” (72 FR 31132; 50 CFR 22.3).

3.4.3.1.1 Regulated Habitats

Areas meeting the regulatory definition of “Waters of the U.S.” (jurisdictional waters) are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U.S.,” tributaries of waters otherwise defined as “Waters of the U.S.,” the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). The TRTP alignment falls within the South Pacific Division of the USACE, and is under the jurisdiction of the Los Angeles District.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act.

3.4.3.1.2 Land Management Plan: Southern California National Forests

The Land Management Plan for the Angeles National Forest (USDA 2005; R5-MB-076) includes a strategy to successfully meet the goals of the vision for the National Forests with design criteria detailed to manage the ANF. Primarily, goals relate to the long-term sustainability of social, economic, and ecological objectives of the forest. It details suitable uses (in designated areas) for land divisions of the forest. In particular, major utility corridors are rated as suitable in developed area interfaces, back country, and back country motorized (use restricted areas) and not in back country non-motorized, critical biological, wilderness, or experimental forest areas. It also describes 12 designated utility corridors, including Interstate 5 (Tejon Pass), Old Ridge Route, Saugus/Mesa, Saugus/Del Sur, Ranaldi Dept Water Power, Gorge Ranaldi, BPL, Vincent Gould, Vincent Rio Hondo, 3-P Line, Midway Vincent, and Vincent Pardee (Table 484).

Many of the management tools and goals described in the plan are linked to National Strategic Plans for National Forests. For example, Invasive Species Prevention and Control (Goal IS 1) is linked to Goal 2 (Reduce the impacts from invasive species) objective 1. Three goals apply to the proposed Project:

¹ 16 U.S.C., Sec. 703, Supp. I, 1989.

- IS 1-Invasive Species Prevention and Control: Prevent the introduction of new invaders, conduct early treatment of new infestations, and contain and control established infestations (Linked to National Strategic Plan Goal 2 [Reduce the impacts from invasive species] objective 1).
- FH 1-Vegetation Restoration: Restore vegetation through reforestation or other appropriate methods after stand replacing fires, drought, or other events or activities that degrade or cause a loss of plant communities (Linked to National Strategic Plan Goal 5 [Improve watershed condition] objective 3). Lands 2-Non-recreation Special Use Authorizations: Where overhead transmission lines occur in California Condor habitat, work with utility companies or authorization holders to install high-visibility or avoidance devices and raptor guards on poles and other structures potentially used as perching sites by California Condors. Also, use signing, barriers, or other suitable measures to protect threatened, endangered, proposed, candidate, and sensitive species key and occupied habitats within special-use authorization areas.

Extensive guidance is also given for a range of conservation measures that be applied to avoid, minimize, or mitigate negative, long-term effects on threatened, endangered, proposed, candidate, or FS Sensitive species and habitats. Sensitive species are defined as “a plant or animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density or in habitat capability that would reduce a species’ existing distribution. Sensitive species are not covered under the Endangered Species Act.” Also identified are FS Watch List species, which are plant species that require additional consideration but do not warrant FS Sensitive status. Guidance includes the protection of known raptor nests; protection of all spotted owl territories; allowance for movement along corridors; use of seasonal closures to protect special-status species; avoidance of collection of forest products; and avoidance of activities that result in the removal, crushing, burying, burning, or mowing of host plants within critical and occupied habitat for special-status butterfly species, among others. The Land Management Plan also lists relevant laws, regulations, agreements, and other management direction outside of the scope of the proposed Project (Appendix A of the Land Management Plan).

3.4.3.2 State

Provisions of CESA protect state-listed threatened and endangered species. The CDFG regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as “fully protected” (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and state-listed species, the CDFG also has produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection. The FWS also uses the label, “Species of Concern,” as an informal term that refers to those species that might be in need of concentrated conservation actions. Species of Concern receive no legal protection as a result of their designation, and the use of the term does not necessarily mean that the species would eventually be proposed for listing as a threatened or endangered species.

Birds of prey are protected in California under the State Fish and Game Code.² Section 3503.5 states it is “unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to

² Section 3503.5, 1992.

take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFG.

Vascular plants listed as rare or endangered by the CNPS, but which might not have designated status under state endangered species legislation, are defined as follows:

- List 1A - Plants considered by the CNPS to be extinct in California
- List 1B - Plants rare, threatened, or endangered in California and elsewhere
- List 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere
- List 3 - Plants about which we need more information – a review list
- List 4 - Plants of limited distribution – a watch list

3.4.3.2.1 Regulated Habitats

The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California. The TRTP alignment falls under the jurisdiction of the Los Angeles (Region 4) RWQCB, the Santa Ana (Region 8) RWQCB, and the Lahonton (Region 6) RWQCB. The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (1995), the Santa Ana River Basin Water Quality Control Plan (updated 2008), and the Water Quality Control Plan for the Lahontan Region (2005) were reviewed to determine specific policies of each RWQCB relevant to the Project. No policies specific to the Project were described, although Best Management Practices (BMPs) for construction, as incorporated into the Project (see below), and the need for a Streambed Alteration Agreement from the CDFG are discussed. In addition, all plans express an objective for the protection of existing wetland habitat and other special aquatic sites with their associated populations of wetland flora and fauna.

The CDFG potentially extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFG 1994a). Such areas of the proposed Project were determined using methodology described in *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607* (CDFG 1994a).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the Project applicant enter into a Streambed Alteration Agreement with the CDFG.

3.4.3.2.2 California Department of Parks and Recreation

The California State Park System encompasses nearly 1.5 million acres in more than 270 “park units” throughout the State, including, but not limited to, habitat reserves and preserves, developed and undeveloped recreational parks, wilderness areas, cultural reserves and preserves, off-highway vehicle parks, and historic parks. For the purposes of lands managed by California State Parks, the State is divided into 12 park “units,” of which the Biological Resources Study Area includes the Los Angeles County Unit and portions of the Central Valley and Inland Empire Units (California Department of Parks and Recreation, 2007). The proposed Project does not traverse lands under the jurisdiction of the California Department of Parks and Recreation. However, a portion of the existing Antelope Valley

California Poppy Reserve, which is under the jurisdiction of California Department of Parks and Recreation, is located within its Los Angeles County Unit, is within one-half mile of the proposed Segment 4 at MP 12.9.

All routes associated with Alternative 4 (the Chino Hills Route Alternative) would affect lands within Chino Hills State Park (Park or CHSP). The CHSP General Plan (General Plan) was adopted in February 1999 (California Department of Parks and Recreation, 1999). The General Plan provides parkwide management goals and guidelines developed for managing natural resources. Goals and guidelines for natural resources are directed towards four broad issue areas relevant to CHSP, including: (1) protecting biocorridors and facilitating the movement of animals and dispersal of plant seed within CHSP, and between the park and other wildland areas; (2) establishing, maintaining, and protecting buffers adjacent to CHSP; (3) restoring and protecting the native vegetation within CHSP through active resource management programs; and, (4) protecting, perpetuating, and restoring native wildlife populations and native aquatic species at CHSP (California Department of Parks and Recreation, 1999).

3.4.3.2.2 Food and Agricultural Code Division 23: California Desert Native Plants Act

The California Desert Native Plants Act protects California desert native plants from unlawful harvesting on both public and privately owned lands within Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing: all species of the family Agavaceae (century plants, nolin, yuccas); all species of the family Cactaceae; all species of the family Fouquieriaceae (ocotillo, candlewood); all species of the genus *Prosopis* (mesquites); all species of the genus *Cercidium* (palos verdes); and *Acacia greggii* (catclaw), *Atriplex hymenelytra* (desert-holly), *Dalea spinosa* (smoke tree), and *Olneya tesota* (desert ironwood, both dead and alive) (provision 80073). This provision excludes any plant that is declared to be a rare, endangered, or threatened species by federal or state law or regulations, including, but not limited to, the Fish and Game Code. The fee for the permit to remove any of these plants will not be less than \$1 per plant, except for Joshua tree (*Yucca brevifolia*), which will not be less than \$2 per plant.

3.4.3.3 Local Policies and Habitat Conservation Plans

3.4.3.3.1 West Mojave Plan

The West Mojave Plan (WMP) is “a habitat conservation plan and federal land use plan amendment that (1) presents a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel (MGS) and nearly 100 other plants and animals and the natural communities of which they are part, and (2) provides a streamlined program for complying with the requirements of the California and federal Endangered Species Acts” (BLM 2005). The 9,359,070-acre planning area includes 3,263,874 acres of Bureau of Land Management (BLM) administered public lands; 3,029,230 acres of private lands; and 102,168 acres of lands administered by the State of California within portions of Inyo, Kern, Los Angeles, and San Bernardino counties.

The BLM issued a Record of Decision (ROD) based on the WMP Environmental Impact Report (EIR). However, the ROD addressed only BLM’s amendment of the California Desert Conservation Area (CDCA) Plan, and it did not include actions proposed by State and local governments for non-federal lands, except when specifically identified (BLM 2006). The habitat conservation plan has not been

completed and would require greater specificity for local governments to obtain incidental take permits under the State and Federal endangered species acts (BLM 2006).

3.4.3.3.2 South Coast Resource Management Plan

The South Coast Resource Management Plan (RMP) and ROD (1994) is a “management plan for the approximately 296,000 acres of BLM-administered land and 167,000 acres of federal mineral ownership where the surface is privately owned over a 5-county area in 296 separate parcels.” Development of this RMP fulfills the mandate of Section 202 of the Federal Land Policy and Management Act of 1976. This plan covers portions of San Diego, Riverside, San Bernardino, Los Angeles, and Orange counties, including the Beauty Mountain management area. These lands have value for watershed and wildlife use as well as recreational use.

The RMP considered 4 alternatives for management of the area, and continuation of the present management was selected as the preferred alternative for the Los Angeles-Orange County Management Area. Several utility corridors (specifically electric) occur within the Los Angeles-Orange County Management Area. The relevant policy and specific actions included in the RMP are as follows:

- All land use proposals will be evaluated for conformance with plan objectives and land use allocation (Chapter 2, #11, p. 14).
- Unique, natural plant communities should be managed to prevent further “urban and industrial development through conversion to agriculture or road construction.” These include coastal sage scrub, Riversidean sage scrub, south coast live oak riparian forest, southern cottonwood-willow riparian forest, southern sycamore-alder riparian forest, southern willow scrub, or Engelmann oak woodland (Chapter 2; Appendix B, p. 87).
- Measures for minimizing accelerated soil erosion will continue to be made on a site-specific basis through evaluation of management actions (Chapter 2, #19, p. 15).
- Management actions will conform to visual resource management Class 3 Objectives (Chapter 2, # 7, p. 45).

3.4.3.3.3 Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization that develops the Regional Comprehensive Plan and Guide (RCPG) for growth management. The RCPG is currently being updated, with drafts dated 2008 available for review. Sections of the RCPG that pertain to the TRTP are the Growth Management (will be the Land Use and Housing Section) and the Open Space and Conservation (non-mandated) section (will be Open Space and Habitat Section). In addition, the SCAG develops a State of the Region report yearly to guide local policy.

3.4.3.3.4 Los Angeles County Draft General Plan

The Los Angeles County Draft General Plan (2008a) is an update of efforts begun in 1970 to formalize a development plan (adopted in 1980). It is the outline for growth and development in the unincorporated areas of Los Angeles County within the next 20 years that guides land use decisions. One of the 10 community priorities described in the plan is the protection of the natural environment, natural resources, and open spaces (Community Priority # 9, Goal C/OS-5). The Significant Ecological Area (SEA) designation provides an additional level of environmental review; any development within SEAs (described below) require a SEA-Conditional Use Permit, unless exempt³. Currently proposed SEAs near

³ The CPUC has preemptive jurisdiction over construction, maintenance, and operation of public utilities in California (CPUC’s General Order Number 131-D) and the Forest Service has preemptive jurisdiction for the Project within National Forest lands. Therefore, no local discretionary permits (e.g. Conditional Use Permits or Specific Plan approval) or local plan consistency evaluation is required for the proposed Project or the Project alternatives. However, SCE would be required to obtain all ministerial building and encroachment permits from local jurisdictions (counties and incorporated cities).

the Project alignment include Antelope Valley, San Gabriel Canyon, Puente Hills, and Rio Hondo Wildlife Sanctuary. These SEA areas replace previously described SEA areas. Other than SEAs, other Special Management Areas include open space areas, hillside management areas, agricultural opportunity areas, and National Forests. Within the National Forests, development is not encouraged because “development requires the removal of forest vegetation around structures for fire protection, erosion from hillside development may occur, and the mountainous terrain subjects structures to potential landslides due to seismic activity.” In addition, the Land Use Element of the General Plan requires development and infrastructure projects to preserve, to the best extent possible, major drainage features, riparian vegetation, rock outcroppings, and stands of other native trees. Productive farmland is also protected within Los Angeles County for local food production, open space, public health, and the local economy (Goal C/OS-6). With regards to energy sources, Los Angeles County has set policies to expand the production and use of alternative energy resources while maximizing energy conservation (Goal C/OS-9 and 10). In addition, the Los Angeles County Zoning Code references, in detail, policies described in the General Plan, such as the Oak Tree and Brushing Ordinances, described below.

Other than the Antelope Valley Areawide Area Plan, the General Plan describes three Community and Neighborhood Plans applicable to the Project: the Hacienda Heights Community Plan (1978), the Rowland Heights Community Plan (1981), and the Altadena Community Plan (1986). Six additional Community General Plans are described below: City of La Cañada Flintridge General Plan (1993), City of Rosemead General Plan (2008), City of Duarte Comprehensive General Plan (2005 to 2020) Preliminary Draft (2006), The City of Pasadena Comprehensive General Plan (2004), City of Baldwin Park 2020 General Plan (2002), and the Comprehensive General Plan of the City of San Gabriel, California (2004). Several communities did not have General Plans readily available, as they are currently being developed or updated, including Temple City, El Monte, South El Monte, Chino Hills/Los Serranos, and Chino. Policies described in the General Plan are typically put into practice through City Planning Ordinances.

County of Los Angeles Oak Tree and Brushing Ordinances

The County of Los Angeles General Plan (CLAGP) directs the protection of native oaks within developed portions of Los Angeles County, especially on steeper slopes (>25%). Section 22.56 of the County Zoning Code (Part 16) requires that any native oak more than 8 inches in diameter at breast height (dbh) or 25 inches or greater in circumference not be damaged, removed, or encroached on (within 5 feet of the drip line or 15 feet from the trunk). Oak species covered by the ordinance include coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), Engelmann oak (*Quercus engelmannii*), Canyon oak (*Quercus chrysolepis*), Nuttall’s scrub oak (*Quercus dumosa*), and oak species of cultural significance. A county permit is required to remove oaks, and permits must be accompanied by a county oak tree report. Removed oak trees must be replaced at a ratio of 2:1 (using 15-gallon oaks of the same species, or greater, as determined by the hearing officer), maintained for 2 years, and replaced if mortality occurs (Section 22.56.2180). When replacement or relocation of the proposed Project site is inappropriate, the applicant may request to mitigate for tree removal by payment into the oak forests special fund to plant new oak trees on public lands, maintain existing oak trees on public lands, purchase prime oak woodlands, and purchase oaks of significant cultural value. Oak trees must be protected during development projects with the installation of chain link fence (4-foot height) around the protection zone of trees prior to project initiation. Projects involving grading within the protected zone of a native oak must be supervised by an individual with special expertise with oak tree management and

reporting within Los Angeles County. Excavation within the protected zone must be limited to hand tools or small hand-power equipment. Utility trenching should avoid encroaching into the protected zone.

The County Zoning Code Section 12.28 Brushing Ordinance requires a permit for the removal or destruction of natural vegetation on terrain with 8% slope or greater. The County of Los Angeles may issue permits for vegetation removal in these areas, and requests must include a description of the property; details of proposed management practices and equipment used to prevent erosion; and a map displaying topography, drainages, and the proposed Project area. Conditions may be outlined for the permit, including seasonal limitations in vegetation removal, requirements for erosion control devices, and restoration of native vegetation in impacted areas.

County of Los Angeles Significant Ecological Areas

Significant Ecological Areas are specified by the CLAGP as “ecologically important land and water systems that are valuable as plant or animal communities, often important to the preservation of threatened and endangered species, and conservation of biological diversity within the County.” There are a total of 31 existing and proposed SEAs within Los Angeles County and a total of 6 SEAs that overlap the Project area: Joshua Tree Woodlands, San Andreas Rift Zone, Santa Clara River, San Gabriel Canyon, Rio Hondo Wildlife Sanctuary, and Puente Hills SEA.

Project guidelines for the Joshua Tree Woodland SEA include the retention of Joshua Tree Woodland with adequate buffers to allow for the long-term viability and integrity of this rare plant community. Guidelines for the Puente Hills SEA require the retention of Southern Coast Live Oak Riparian Forest, California Walnut Woodland, Southern Willow Scrub, Coastal Sage Scrub, and Freshwater Marsh with adequate buffers to allow for the long-term viability and integrity of these rare plant communities. Other guidelines for the Puente Hills SEA include the retention of connectivity between major canyons, ranges (Puente and Chino Hills), and habitat patches that are fragmented by roads, freeways, and other barriers. In addition, any loss of small and/or isolated habitat patches within the SEA must be mitigated through on-site restoration and revegetation efforts, in order to “prevent a cumulative net loss in the functions and values of these habitats within any one of the Puente Hills SEA habitat units” (County of Los Angeles, 2007a).

The San Gabriel Canyon SEA requires protection of habitat for core populations of San Gabriel bedstraw and San Gabriel Mountains dudleya. Additionally, guidelines for this SEA require the retention of Southern Coast Live Oak Riparian Forest, Coast Live Oak Woodland, California Walnut Woodland, Southern Willow Scrub, Coastal Sage Scrub, and Riversidean Alluvial Fan Sage Scrub with adequate buffers to allow for the long-term viability and integrity of these rare plant communities. The Santa Clara River SEA requires the limitation of development outside existing floodplain margins; retention of connectivity of the Santa Clara River and its major tributaries; maintenance of habitat with adequate buffers for unarmored three-spined stickleback, California red-legged frog, and slender-horned spineflower; and retention of Southern Coast Live Oak Riparian Forest, Bunchgrass Grassland, Bigcone Douglas Fir-Canyon Oak Forest, Southern Willow Scrub, Southern Sycamore Alder Riparian Woodland, Southern Cottonwood Willow Riparian Forest, Freshwater Marsh, Riversidean Alluvial Fan Sage Scrub, and Vernal Pools with adequate buffers to allow for the long-term viability and integrity of these rare plant communities.

3.4.3.3.5 Hacienda Heights Community Plan

The Hacienda Heights Community General Plan (1978) is currently being updated to reflect changes in demographics and emerging needs in Hacienda Heights. Hacienda Heights is a residential community lying along the north slope of the Puente Hills. Policies described in the General Plan are typically put into practice through City Planning Ordinances. The major land use policies related to the Project include those under Policy 3: Permit interim use of a portion of the landfill area, subject to conditions of access or protection (these are covered, at least in part, in the Puente Hills Landfill Management Plan, described above). This plan mentions the Sycamore and Turnbull Canyon Area SEAs, described in the old Los Angeles County General Plan and incorporated into the newly proposed Puente Hills SEA. Policies pertaining to the preservation of natural resources related to the Project include the following:

- 3) In non-urban areas, preserve drainage courses in their natural state to the greatest extent possible.
- 4a and 4b) To preserve the SEA, will not allow the substantial deterioration of resources such as vegetation and wildlife, watershed, areas required for ecologic and/or scientific study purposes, and streams and will not significantly increase the risk of wildland fire.
- 5) Uses of land within the SEA are permitted, including utility easements.

3.4.3.3.6 Rowland Heights Community Plan

The Rowland Heights Community Plan (1981), while an element of the Los Angeles County General Plan, delineates more clearly, and in greater detail than is possible in the Countywide General Plan, policies and standards for development in Rowland Heights, located directly east of Hacienda Heights (described above). One of the key issues identified in the development of the plan is the preservation of the rural atmosphere of the community through the maintenance of the natural hillsides. Two of the main goals are to maintain the rural atmosphere of the community through the preservation of natural hillsides and vegetation and to preserve major ridgelines and riparian corridors. Over 4,000 acres of hillside land was vacant in 1981, some of which is operated by Shell Oil Company, and the other portion is included within the newly proposed Puente Hills SEA. Additional policies applicable to the Project include the following:

- 1) Preserve conservation and open space areas (utility easements are allowed)
- 5) Protect visual qualities of scenic areas including ridgelines and views from public roads and trails, particularly in the Brea Canyon Cut-off area
- 6) Require approval prior to disturbing any major stands of vegetation. Policies described in the General Plan are typically put into practice through City Planning Ordinances
- 7h) Preserve significant views from major existing residential areas and protect the visual quality of highly scenic areas
- 9) Obtain Regional Planning Commission approval of an environmental assessment before disturbing any major stands of vegetation; conservation and open space policies

3.4.3.3.7 Altadena Community Plan

The Altadena Community Plan (1986) is a replacement of the 1969 Community Plan. Altadena is located north of Pasadena adjacent to the ANF in the northwest portion of the San Gabriel Valley. The ANF represents slightly more than 8% of the area, vacant lands represent 10% of the area, and utilities comprise 3% of the area (the SCE 220-kV transmission right-of-way corridor in the San Gabriel Mountain foothills and existing transformer stations). The primary issue raised by this general plan (as most areas that are a part of the plan area that could be developed were already developed) is that existing overhead electrical and telephone lines conflict with the unique visual quality and backdrop of the San Gabriel Mountains. As such, one of the primary infrastructure goals is to encourage the installation of

underground utilities and coordinate all County departments and private utilities. The other main, applicable issue described in the Community Plan is the proximity to the ANF and foothill areas that are dominated by thick vegetation and present a threat of frequent fire. Policies employed to limit fire dangers in the area include maintaining the current levels of fire protection, maintaining brush clearance standards, and to continue to develop recommendations for fire safety. Policies described in the General Plan are typically put into practice through City Planning Ordinances.

3.4.3.3.8 City of La Cañada Flintridge General Plan

The City of La Cañada Flintridge General Plan was adopted 15 November 1993 to develop policies to retain the community's natural and semi-rural nature. La Cañada Flintridge is located directly south of the ANF, north of Pasadena. Policies described in the General Plan are typically put into practice through City Planning Ordinances. There are roughly 800 acres of ANF land within City boundaries. Several goals of the plan apply to the proposed Project alignment:

- Goal 3A: Preserve and enhance, to the maximum extent possible, the natural and manmade scenic beauty of the community.
- Policy 3.2: Conduct appropriate environmental reviews for all projects affecting land use.
- Goal 4: Maintain hillside areas for the purpose of preserving the visual quality of the City, protecting the public from safety hazards, and conserving natural resources.
- Policy 4.7: In areas of hillside development, preserve ridgelines, natural slopes, and bluffs as open space, minimize erosion, and complement natural landforms through sensitive grading techniques.
- Conservation Policy 4.2: Major hillside viewscapes visible from points within the City should not be detrimentally altered by the intrusion of highly visible cut or fill slopes, building lines, and/or road surfaces.
- Vegetation Policy 4.14: The City may consider the adoption of a heritage tree ordinance for the purpose of identifying and preserving significant trees. (Note: the City Tree Ordinance protects native oaks, and deodar cedar, Chinese elm, and California pepper tree with trunks 12 inches or more in diameter, measured at 4 feet from the ground surface. A permit is required for their removal.)

3.4.3.3.9 City of Rosemead Draft General Plan

The City of Rosemead General Plan (2008) is designed to guide the City through the year 2025 by establishing goals and policies that address land use, circulation, economic development, safety, and open space. The City of Rosemead is located west of the City of El Monte in the San Gabriel Valley approximately 11 miles east of downtown Los Angeles. Several goals/policies in the General Plan are relevant to the proposed Project, including goals to provide high-quality parks, recreation, and open space facilities. Zoning ordinances are not relevant to the proposed Project, except for the Oak Ordinance, described above.

3.4.3.3.10 City of Duarte Comprehensive General Plan (2005 to 2020) Preliminary Draft

The Duarte Preliminary General Plan (2006) was last updated in 1989 and will help direct decision making and policy implementation until 2020. The City of Duarte is located near the southern terminus of Segment 6. The City is divided into 3 main areas: the mountainous region of the San Gabriel Mountains within the ANF, the foothills of the San Gabriel Mountains, and the alluvial slopes of the mountains (where urban development is concentrated). Policies described in the General Plan are typically put into practice through City Planning Ordinances. Several policies included in the Preliminary General Plan apply to the proposed Project alignment:

- Conservation Objective 1: Preserve Duarte's natural hillsides which provide significant wildlife habitat, open space, aesthetic, and a visual backdrop to the community.

- Conservation Objective 5.1: Promote the preservation of open space by discouraging development that is not sensitive to this resource.
- Conservation Objective 6.1: Assure that development maintains the character of open space natural resources.

3.4.3.3.11 City of Pasadena Comprehensive General Plan

The City of Pasadena Comprehensive General Plan (2004) was last updated in 1994 to translate broad community values into specific strategies for growth. The Draft Green Space and Conservation Element was prepared in July 2007. Pasadena is located south of the ANF, southeast of Altadena. In addition to the General Plan, 7 Specific Plans were developed to outline development strategies for key areas within urban environment. Policies described in the General Plan are typically put into practice through City Planning Ordinances. Several policies outlined in the General Plan are applicable to the proposed Project:

- Objective 19: Protect and enhance areas of the City containing important biological resources; protect and minimize disturbance of any important paleontological and/or archaeological resources that might remain in the City.
- Policy 19.1: All project proponents proposing to develop within undeveloped areas shall conduct surveys according to applicable protocols in consultation with the appropriate trustee agencies (including, but not limited to, the FWS and CDFG) to determine if special-status species (including, but not limited to California gnatcatcher and least Bell's vireo) or potential habitat for special-status species (including, but not limited to, coastal sage scrub and Riversidean alluvial fan sage scrub) are present or are potentially present. If the surveys and/or consultation indicate that such species or habitat are present or potentially present, appropriate mitigation measures shall be required as conditions of project approval to minimize and/or offset the project's potential effects on those species and/or habitat.
- Policy 19.2: All project proponents proposing to develop within areas containing wetlands, riparian habitat, and/or jurisdictional waters of the U.S. or the State of California shall conduct surveys in consultation with appropriate trustee agencies (including, but not limited to, the USACE, FWS, CDFG, Los Angeles RWQCB). If the surveys and/or consultation indicate that wetlands, riparian habitat, and/or jurisdictional waters are present or potentially present, appropriate measures shall be required as conditions of project approval to minimize and/or offset the project's potential effects on those resources.
- Green Space Objective 1: Encourage and promote the stewardship of Pasadena's natural environment, including water conservation, clean air, natural open space protection, and recycling.
- Green Space Policy 1.3: Restore, enhance, and re-establish the historical native plant communities within identified critical open space areas to better support native wildlife habitat.
- Green Space Policy 1.5: Restore, protect, and enhance wildlife habitat within critical open space areas and any wildlife corridors and/or linkages.
- Green Space Objective 2: Recognize the importance to Pasadena of the history, cultural resources, and unique character of the Arroyo Seco (on the west side of Pasadena), and conserve and enhance these assets (further described in the Arroyo Seco Master Plans (2005)).

3.4.3.3.12 City of Baldwin Park 2020 General Plan

The City of Baldwin Park 2020 General Plan (2002) was designed to develop a long-range plan which capitalizes on the community's physical, economic, and human resources for dealing with planning issues. Baldwin Park is located south of Duarte, south and east of the San Gabriel River. Several policies outlined within the General Plan are also covered under the City of Baldwin Park Zoning Ordinance. Although an approximately 3,000 feet length of the San Gabriel River runs through the Baldwin Park planning area, no open space/conservation measures are addressed in the General Plan and no Zoning Ordinance pertaining to the proposed Project exist.

3.4.3.3.13 Comprehensive General Plan of the City of San Gabriel, California

The Comprehensive General Plan of the City of San Gabriel, California (2004) is updated from the 1990 General Plan to develop methods to maintain a high quality of life. San Gabriel is located south of the City of San Marino and west of Temple City and Rosemead. The policies described in the General Plan are enforced through the Municipal Zoning Code. Policies in the General Plan applicable to the proposed Project include the following:

- Target 1.13.2: Fund and develop at least 2 major open space projects in conjunction with the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy.
- Action 7.1.1.2: Acquire small sites such as the Edison easements, cul-de-sacs, and street corners that can be assembled for future development of community gardens, neighborhood parks, skate parks, and recreational facilities.
- Target 8.5.3: Work with the San Gabriel Mountains and River Conservancy, and other interested agencies, to restore the San Gabriel River to a more environmentally healthy state.

3.4.3.3.14 Puente Hills Landfill Native Habitat Preservation Authority Resource Management Plan

The purpose of the Puente Hills Native Habitat Preservation Authority (Habitat Authority) is to acquire, restore, and maintain native habitat in the Puente Hills. The preserve consists of 3,860 acres west of Harbor Boulevard to Interstate 605 and State Route 60. This RMP provides a comprehensive, long-term management plan for the preserve with an adaptive management strategy. It identifies the main threats to the area as including habitat fragmentation, invasive plant species infestation, the “urban edge” effect (including light and noise pollution, exotic pests, feral pets, exotic plants, diseases, fire, and pollution), public use, and erosion. The RMP includes 7 goals pertaining to biological resources:

- Goal Bio-1: Acquire remaining open space that strengthens the ecological functioning of the preserve
- Goal Bio-2: Address risk of wildfires along the wildland urban interface
- Goal Bio-3. Maintain all populations of native plants and wildlife with special emphasis on management of locally uncommon, sensitive, federally-threatened, or endangered species and other sensitive resources (including protections for coastal sage scrub habitat for California gnatcatcher and other scrub species, protections for western spadefoot toad, protections for special-status plant species, protections for special-status raptor species, protections for Indicator Species in Los Angeles County, protections for native vegetation communities (particularly walnut woodland, oak woodland, coastal sage scrub, riparian communities, and native grassland), and the minimization of edge effects by the inclusion of an appropriate buffer in development
- Goal Bio-4. Enhance and restore degraded habitats in the preserve by increasing native vegetation, monitoring the spread or invasion of exotic species, and developing a long-term invasive, exotic plant management plan
- Goal Bio-5. Implement monitoring programs designed to identify ecosystem threats and guide adaptive management of the preserve by tracking the health, function, and integrity of habitats and ecological processes
- Goal Bio-6. Encourage university-level research to address unanswered, fundamental biological questions
- Goal Bio-7. Develop an in-house data storage and analysis system

3.4.3.3.15 Rio Hondo Watershed Management Plan

The purpose of the Rio Hondo Watershed Management Plan (2004) is to provide an organizing framework to improve water quality, health, habitat, and recreation potential of the Rio Hondo Watershed. Polluted run-off to the watershed has increased as impervious surfaces have reduced water percolation, and storm water run-off has adversely affected water quality. Two lower reaches of The Rio Hondo are designated as impaired water bodies. Six goals have been identified to create a healthy watershed with the idea that priority projects would address multiple goals simultaneously:

- Improve in-stream water quality to meet or exceed RWQCB standards and NPDES requirements by implementing a wide array of Stormwater Best Management Practices (BMPs)
- Create, enhance, and protect open space
- Improve habitat quality, quantity, and connectivity and combine existing habitat with the creation of new habitat to strengthen habitat migration corridors
- Improve recreational opportunities and use interpretative opportunities to enhance watershed awareness and identity
- Ensure that public health and safety are integrated into all aspects of watershed enhancement
- Maintain current, minimum flood protection levels and develop new flood protection strategies to meet the multiple goals required for watershed improvement

3.4.3.3.16 County of San Bernardino 2007 General Plan

The County of San Bernardino 2007 General Plan was adopted 13 March 2007. The previous General Plan was adopted in 1989. Policies stated in the General Plan are stated for all regions, or for the Valley, Mountain, or Desert Planning Region. The proposed Project alignment falls within the Valley Planning Region only. Goals relevant to the Project include the following:

- Goal Lu 7. The distribution of land uses will be consistent with the maintenance of environmental quality, conservation of natural resources, and the preservation of open spaces.
- Goal CI 13. The County will minimize impacts to stormwater quality and enhances environmental quality.
- Goal CI 18. The County will ensure efficient and cost effective utilities that serve the existing and future needs of people in the unincorporated areas are provided.
- Goal CO 1. The County will maintain to the greatest extent possible natural resources that contribute to the quality of life within the county.
- Goal CO 2. The County will maintain and enhance biological diversity and healthy ecosystems throughout the county.
- Goal CO 7. The County will minimize land use conflict between open spaces and surrounding land uses.

3.4.3.3.17 Antelope Valley Areawide General Plan

The Antelope Valley Areawide General Plan (1986) is one of three Area Plans adopted by the Los Angeles County General Plan and was last amended 27 July 1999. Those portions of the plan that pertain to the Project include the following:

- Designate significant plant and wildlife habitats in the Antelope Valley as “Significant Ecological Areas” (SEAs) and establish appropriate measures for their protection, including funding for acquisition and maintenance to promote and preserve biotic diversity (V-1, V-15)
- Minimize environmental degradation by enforcing controls on sources of pollution (including visual pollution) and noise (V-1)
- Preserve the Antelope Valley’s SEAs in as viable and natural condition as possible, considering the addition of unique and rare habitat areas (V-16)
- Where a proposed discretionary application includes major riparian areas, assess the impact of the project on biotic resources and encourage project design which is sensitive to, and compatible with, the biotic resources present (V-16)
- Restrict use of off-road vehicles to public lands already disrupted by such uses or to lands exhibiting low environmental sensitivity
- Encourage uniform standards to grading practices on steep terrain

3.4.3.3.18 Lancaster General Plan

The City of Lancaster General Plan (City of Lancaster 1997) includes a policy and specific measures to reduce adverse impacts on biological resources and protect sensitive species. This policy is relevant to the

Desert Wash and the Joshua Tree Woodland habitats within the proposed Project. The policy and specific actions included in the City of Lancaster General Plan relevant to the proposed Project are as follows:

- 3.4.1: Provide for the development of comprehensive management programs for significant biological resource areas remaining in the area. Specific actions under this policy provide for cooperating with federal, state, and local agencies in developing the West Mojave multi-species habitat conservation plan and initiating area wide studies under this plan to identify sensitive plants and animals within the study area.
- 3.4.2: Provide for the general protection of areas designated as Prime Desert Woodland.
- 3.4.3: Preserve significant desert wash areas to protect sensitive species that utilize these habitat areas. As part of specific environmental review, evaluate natural desert wash habitats that could be impacted by development to determine their potential to support special-status plant and wildlife species. Areas of desert wash habitat considered highly important for special-status species or that is occupied by these species shall be protected.

3.4.3.3.19 Palmdale Municipal Code

Joshua trees and juniper trees receive protection from the Palmdale Native Desert Vegetation Ordinance. Chapter 14.04 of the City of Palmdale Municipal Code (2007) requires a desert vegetation preservation plan with minimum preservation standards for removal of vegetation at sites with Joshua trees and other species included in the California Desert Native Plants Act, California Food and Agriculture Code, Division 23. This act requires permits from both Los Angeles and Kern counties for the removal of Joshua trees and other native vegetation. If on-site preservation is not feasible, in lieu, fees may fulfill this requirement. Conditions and measures anticipated to be included in the permit include, but are not limited to the following:

- A desert vegetation preservation plan prepared by a qualified biologist consisting of a written report and site plan depicting the location of each Joshua tree and, if determined necessary by the City of Palmdale, a long-term maintenance program for any Joshua trees left on site.
- Criteria for preservation of desert vegetation, the minimum standard for preservation being two Joshua trees per acre or as determined by the qualified biologist in accordance with the City of Palmdale. Joshua trees to be left on site shall be fenced off and left undisturbed during any grading activities or removed to a holding area until grading activities are completed. If two Joshua trees per acre cannot be preserved on site, the trees shall be transplanted to an off-site location by District No. 20 as approved by the City of Palmdale. Joshua trees may be transplanted to compensatory lands discussed in Measure 12-18. In lieu of transplantation of Joshua trees from areas to be developed, District No. 20 may satisfy the requirements of the City Code through payment of a fee to the City. At the City's discretion, compensatory mitigation for Joshua tree woodland included in Measure 12-18 may satisfy Measure 12-16 if the City determines that these lands support adequate numbers of Joshua trees (Sanitation Districts of Los Angeles County 2005).
- Joshua trees preserved on site, in landscape easements, or landscape assessment districts are to be maintained in a healthy condition for a minimum of two growing seasons. The trees will be evaluated after one year by a qualified biologist. Trees determined to be failing or that have died will be replaced as determined by the City.

3.4.4 Impact Analysis Approach

3.4.4.1 Criteria for Determining Impact Significance

To satisfy CEQA requirements, conclusions are made regarding the significance of each identified impact that would result from the proposed Project and alternatives. Appropriate criteria have been identified and utilized to make these significance conclusions. The following significance criteria for biological resources were derived from previous environmental impact assessments and from the CEQA Guidelines (Appendix G, Environmental Checklist Form, Section IX). Impacts of the proposed Project or alternatives would be considered significant and would require mitigation if the Project would:

- Criterion BIO1: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or FWS.
- Criterion BIO2: Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species.
- Criterion BIO3: Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG, FS, or FWS.
- Criterion BIO4: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Criterion BIO5: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Criterion BIO6: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances.
- Criterion BIO7: Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP.

Significance conclusions for individual impacts are not required for compliance with NEPA. Therefore, conclusions presented in the following analysis regarding the significance of identified impacts are provided for the purposes of CEQA only.

3.4.4.2 Applicant-Proposed Measures (APMs)

APMs were identified by SCE in the PEA. Table 3.4-16 presents the APMs that are relevant to the issue area of biological resources. APMs are a commitment by the Applicant (SCE) and are considered part of the proposed Project. Therefore, the following discussions of impact analysis assume that all APMs will be implemented as defined in the table. Additional mitigation measures are recommended in this section if it is determined that APMs do not fully mitigate the impacts for which they are presented.

APM BIO-1	Pre-construction biological clearance surveys would be performed to minimize impacts on special-status plants or wildlife species.
APM BIO-2	Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for protection. A project revegetation plan would be prepared for areas of native habitat temporarily affected during construction.
APM BIO-3	Construction crews would avoid affecting the streambeds and banks of any streams along the route to the extent feasible. If necessary, a Streambed Alteration Agreement (SAA) would be secured from California Department of Fish and Game. Impacts would be mitigated based on the terms of the SAA. No streams with flowing waters and or those capable of supporting special-status species would be expected to be adversely impacted from project implementation.
APM BIO-4	Construction and Operations Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction and maintenance operations.
APM BIO-5	Biological monitors would be assigned to the project. The monitors would be responsible for ensuring that impacts to special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities need to be restricted to protect native plants and wildlife, or special-status species. These restricted areas would be monitored to ensure their protection during construction.
APM BIO-6	A Worker Environmental Awareness Program (WEAP) would be prepared and all construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the Project area, the locations of the sensitive biological resources, their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all personnel trained would be maintained.

APM BIO-7	Where significant and unavoidable impacts on any special-status resources cannot be avoided, SCE would conduct compensate mitigation as determined by the regulatory agency.
APM BIO-8	SCE would conduct project-wide raptor surveys and remove trees, if necessary, outside of the nesting season (1 February – 31 August). If a tree or pole containing a raptor nest must be removed during the nesting season, or if work is scheduled to take place in close proximity to an active nest on an existing transmission tower or pole, SCE would coordinate with the CDFG and FWS and obtain written concurrence prior to moving the nest.
APM BIO-9	All transmission and sub-transmission towers and poles would be designed to be raptor-safe in accordance with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006).

3.4.4.3 Impact Assessment Methodology

Consistent with the requirements of CEQA, NEPA, and Forest regulations, the significance of potential impacts is evaluated through the application of the significance criteria described above. The objective of the biological resources analysis is to identify potential adverse effects and/or significant impacts on biological resources. Avoidance is the preferred approach for management of biological resources. If impacts can be avoided through project design, establishment of exclusion zones, or other means, then specific mitigation measures may be unnecessary. However, appropriate mitigation measures to avoid or minimize impacts are identified, as appropriate, including procedures to be followed if significant biological resources are discovered during construction.

Special-Status Plant Impact Methodology

The methodology used to analyze and describe significance for special-status plant species is entirely based on a “habitat/vegetation-type approach.” Therefore, impacts to vegetation types mapped within the proposed Project were considered significant in the context of habitat capable of supporting special-status plants. Several vegetation types are considered rare and worthy of consideration by CDFG (2003, 2007) and/or are jurisdictional waters, and therefore impacts to these habitat types are considered significant in and of themselves (see Criterion BIO-1 and BIO-4). Finally, several vegetation types used in the mapping and impacts analysis were either considered unlikely to provide suitable habitat for any special-status plant species or were not possible or desirable to preserve through mitigation, and therefore in-kind mitigation is not proposed for impacts to these types. These vegetation types are agricultural, barren/developed, exotic-giant reed, nonnative woodland, and ruderal grassland. Impacts to special-status plant species potentially occurring in these habitats are addressed under the other habitat types in which these species may occur.

As described above, the methodology used to analyze and describe significance for special-status plant species is entirely based upon a “habitat or vegetation-type approach.” Because special-status plant species may exist in more than one vegetation type, these species may be listed within multiple impact statements. However, when determining levels of significance for loss of habitat as habitat for special-status plant species, impacts to each species were only analyzed once. As an example, white-bracted spineflower may occur in three different vegetation types including Mojave juniper and woodland scrub, Mojave pinyon woodland, and desert wash. Thus, while this species may occur in each specific vegetation type, impacts to this species resulting from loss of habitat will only be considered once when determining the appropriate level of significance.

Many of the special-status plant species potentially occurring in the proposed Project are annuals or herbaceous perennials that may emerge and bloom only once every several years and then generally for only a few months. Other species are conspicuous perennials. Different mitigation strategies were adopted

for these two categories of plants because mitigation measures involving pre-construction surveys and avoidance are principally feasible only for the perennial species which can potentially be detected even when not in bloom.

The overall approach to mitigation for impacts to special-status plant populations is to avoid through redesign to the extent practicable. Where avoidance of impacts is not feasible, mitigation should be accomplished through one or more of the following measures: restoration of onsite habitats, preservation of similar, nearby habitat, and/or the perpetual protection and preservation of existing populations.

Assumptions and Approach Regarding Restoration

The highly diverse habitat types that occur throughout the northern, central, and southern regions of the proposed Project will constrain restoration opportunities. There are a number of limiting factors in regard to locating areas that would be suitable for restoration/revegetation, such as varied land ownership and /or agency jurisdiction, lack of irrigation water in remote locations, existing unique resources, existing noxious weed infestations, access, topography, soil conditions, and hydrology. The following is a brief overview of the general restoration/revegetation approach that could be implemented for each of the regions along the Project alignment.

Northern Region

The Northern Region will be the most difficult environment to successfully restore/revegetate as arid land restoration is very challenging. Temporary impacts within this region will primarily be addressed through implementing Best Management Practices (BMPs). The Project BMPs should include revegetation techniques such as high density seeding of decommissioned roads and other disturbed areas in order to provide a native seed bank. This will aid in early establishment of target species and provide additional value in competition with non-native species that may establish in the disturbance areas. This effort will need to be combined, in most areas, with a sustained program to control non-native invasive plants in the impact footprint until the native seeding has established adequate native plant cover.

Central Region

The Central Region, which includes the ANF, provides some opportunities for restoration. Efforts to restore temporary impact areas may include, but are not limited to, salvage of topsoil, decompaction and recontouring, seeding, container plantings, barricades, erosion control, hydroseeding, mulching/slashing, and weed control. In restoring species-specific Project disturbed oak or other tree habitats container plantings, direct seeding with acorns, or any other suitable restoration method of the various oaks or tree species should be considered. Container plantings for all species utilized for revegetation will be grown from locally collected source material and irrigated to ensure establishment. All areas impacted and disturbed by any Project activities will be reseeded with locally collected native seed. Topsoil to a depth of 6 inches to 2 feet will also be salvaged, stored and respread as part of the restoration effort for all sites impacted by grading or other significant soil disturbance. An aggressive weed control program will be required within all disturbed areas within the ANF to aid in control of such species as Spanish broom (*Spartium junceum*), yellow-star thistle (*Centaurea solstitialis*), tocalote (*C. melitensis*), arundo (*Arundo donax*), fountain grass (*Pennisetum sp*), and non-native annual grasses.

The success of the restoration effort will be measured quantitatively with annual reports. The Project will be monitored for a minimum of five years. If the success criteria are not met after five years, restoration will continue until the success criteria are met. All plantings shall have a minimum of 80 percent survival,

by species, the first year and 100 percent survival thereafter and/or shall attain 75 percent cover after three years and 90 percent cover after five years for the life of the Project. Prior to the mitigation sites being determined successful, they shall be entirely without supplemental irrigation for a minimum of two years. No single species shall constitute more than 50 percent of the vegetative cover, no woody invasive species shall be present, no herbaceous invasive species not currently found in the disturbance area shall be present, and herbaceous invasives currently located in the disturbance area shall not exceed five percent cover. If the survival and cover requirements have not been met, the Operator is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

Project impacts to riparian habitat within the Central Region are high, as evidenced by the number of Riparian Conservation Areas that are impacted by both Project construction and maintenance. There are numerous opportunities to enhance and restore riparian habitat throughout the Central Region. The control of giant reed should be considered a high priority as the large expanse currently provides minimal habitat value. The eradication of giant reed would provide a large area that could be restored to native riparian habitat. Restoration of these areas to native riparian habitat would provide a dramatic increase in habitat functions and values in this area, which supports a number of special-status species. Given the large area that could be available for restoration, the ANF should also be considered for out-of-kind mitigation for impacts to other habitat types.

Southern Region

The Southern Region provides the best opportunity for active restoration/revegetation to mitigate for temporary impacts, particularly in the Whittier Narrows area. Although Project impacts to riparian habitat are minimal, there are numerous opportunities to enhance and restore riparian habitat throughout the Southern Region. The control of giant reed in the Whittier Narrows area should be considered a high priority as the large expanse currently provides minimal habitat value. The eradication of giant reed would provide a large area that could be restored to native riparian habitat. Restoration of these areas to native riparian habitat would provide a dramatic increase in habitat functions and values in this area, which supports a number of special-status species. Given the large area that could be available for restoration, the Whittier Narrows as well as the ANF and Chino Hills State Park should also be considered for out-of-kind mitigation for impacts to other habitat types. The Puente/Chino Hills area presents a rather difficult scenario for restoration partly due to the existing land use practices and varied ownership. However, this area contains large stands dominated by invasive black mustard that could be restored to native coastal sage scrub. Also, any direct impacts to California Walnut Woodland should be mitigated through replanting in the vicinity of the impact area to expand the current southern California black walnut stands.

Chino Hills State Park has a large number of areas that are impacted by non-native species that could be restored to coastal sage scrub or chaparral. Also, riparian areas in Chino Hills State Park are key for providing stop-over locations for migratory birds, and could be another location for restoration.

3.4.5 Alternative 1: No Project/Action

Under the No Project/Action Alternative, the proposed Project and its alternatives would not be implemented. As such, associated impacts to biological resources would not immediately occur. However, in the absence of the proposed Project or an alternative, a similar project will need to be developed to interconnect new wind turbine-based electricity generated from the Tehachapi Wind Resource Area (TWRA) with the energy distribution systems of the Los Angeles Basin. This future

project would be required to meet the power transmission needs and, consequently, would likely result in biological impacts similar to, or in addition to those stemming from the proposed Project and its alternatives.

Environmental conditions in the Project Area, including the regional setting and baseline conditions, are expected to change over time with or without the proposed Project or an alternative to the proposed Project. The following sections describe how biological resources within the Project Area are expected to change over time under the No Project/Action Alternative. Since the potential impacts of the proposed Project would not occur under the No Project/Action Alternative, the significance criteria described in Section 3.4.4.1 (Impact Analysis Approach) are not used to analyze this alternative.

Northern Region

There are currently 17 residential housing developments, infrastructural improvements, and wind energy generation facilities proposed for the Northern Region with a cumulative acreage of more than 98,000 acres (described in Table 3.4-25 of Section 3.4.6.2, Cumulative Impacts). In the reasonably foreseeable future, these and similar development projects will result in impacts to biological resources in the region. Impacts are expected to be greatest in the southern Antelope Valley surrounding the cities of Lancaster and Palmdale, and in the northern Antelope Valley near proposed wind energy developments in Willow Springs and east of Tehachapi Pass. Habitat loss and fragmentation within these areas will negatively impact State- and federally listed plant and wildlife species such as the San Fernando Valley spineflower, desert tortoise, and Mohave ground squirrel.

Central Region

The Central Region of the Project Area includes the ANF. The ANF will continue to be managed by the FS, regardless of implementation of the proposed Project or an alternative to the proposed Project, including the No Project/Action Alternative. Under the No Project/Action Alternative, the existing transmission lines would remain in place and approximately 80 miles of access and spur roads would continue to be used for maintenance of the lines. Biological resources within the Central Region would continue to be managed by the FS.

Southern Region

The Southern Region is highly urbanized but includes patches of undeveloped lands that support unique and diverse biological resources. The cities and communities of the Los Angeles Basin are expected to expand in the future, thereby placing greater strain on biological resources throughout the Southern Region. It is predicted that fragmentation and loss of habitat in the region will continue to impact rare, threatened, and endangered species in this region, including the coastal California gnatcatcher and least Bell's vireo. Most immediately impacted will be the Puente and Chino Hills in Los Angeles, Orange, and San Bernardino counties. Within this region, there are currently seven residential housing development projects planned covering more than 6,400 acres (described in Table 3.4-26 of Section 3.4.6.2, Cumulative Impacts).

3.4.6 Alternative 2: SCE's Proposed Project

For purposes of this section, many ground-disturbing Project activities are likely to result in permanent impacts to habitats for native plants and wildlife species. Examples of permanent impacts include construction of structures such as new towers or substations, and improvements to existing roads as well as construction of new roads that will be maintained throughout the Project. Construction-related impacts are also considered permanent in nature if they occur in fragile, slowly maturing, or xeric vegetation types, which may be difficult or impossible to successfully restore or if revegetation is not expected to occur within five years. However, other ground disturbance activities restricted solely to the construction phase, such as grading roads and clearing vegetation within staging and pulling areas, are considered temporary provided that native vegetation is not replaced with infrastructure or the area is not maintained free of vegetation, and that restoration is deemed feasible prior to Project implementation.

Impacts are discussed and mitigations prescribed, where appropriate, for each vegetation type taking into consideration its ecological condition, floristic composition, and relative rarity on a local and regional basis. The same vegetation types are also analyzed as habitat capable of supporting special-status wildlife species, and for compliance with local and regional policies.

3.4.6.1 Direct and Indirect Effects Analysis

Impacts to Riparian or Natural Communities (Criterion BIO1)

Construction impacts to vegetation communities may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers, construction of helicopter staging areas, and the construction and widening of access and spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support native vegetation is impaired. Construction may also result in the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Desert ecosystems in the Antelope Valley and some plant communities within the San Gabriel Mountains are especially susceptible to ground disturbance and can take decades to recover, if at all. For example, clearing or substantial pruning of oak woodlands may take decades to functionally recover to pre-construction conditions; while disturbance from military exercises conducted in desert ecosystems during the Second World War remains visible to this day.

Plant Communities

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

Implementation of the proposed Project would require construction to occur within a broad array of habitat types. While SCE intends to avoid special-status plant communities to the maximum extent possible and would flag resources for avoidance, construction of the proposed Project would still result in disturbance to a variety of plant communities.

Direct impacts to native vegetation communities would occur as a result of the removal of vegetation during construction activities. These ground-disturbing construction activities would include clearing and grading for tower pad preparation, tower removal sites, pulling and tensioning sites, helicopter staging areas, and construction, grading, and widening of new spur roads and existing access roads. Tables 3.4-

17 and 3.4-18 present the approximate temporary and permanent impacts to vegetation communities that would occur from implementation of the proposed Project. In total, the proposed Project would permanently disturb approximately 55 acres of rare vegetation (228 acres of non-rare vegetation) and would temporarily impact approximately 231 acres of rare vegetation (1,033 acres of non-rare vegetation). Figure 3.4-4 (located in the Map & Figures Series Volume) includes detailed vegetation maps of the entire proposed Project and alternatives transmission line routes.

Indirect impacts to native vegetation communities could include alterations in existing topography and hydrology regimes, the accumulation of fugitive dust, disruptions to native seed banks from ground disturbance, and the colonization of non-native, invasive plant species.

Ongoing operations and maintenance impacts would occur during routine inspection and maintenance of the proposed Project facilities or as a result of facilitated public access. These impacts would include trampling or crushing of native vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence.

Within the ANF permanent disturbance to vegetation totals approximately 92 acres, and temporary impacts to vegetation total approximately 244 acres. Specific impacts to each major plant community are discussed below.

Ruderal Grasslands, California Annual Grasslands, Agricultural Communities, and Non-native Woodlands

Construction of the proposed Project would result in the loss of approximately 125 acres of California annual grassland habitat, 61 acres of ruderal grassland habitat, 24 acres of non-native woodland habitat, 173 acres of agricultural land, and 353 acres of barren/developed areas as a result of the Project-related activities (Tables 3.4-17 and 3.4-18). On the ANF, Project activities would result in the temporary loss of 59 acres and permanent loss of 44 acres to these communities (Table 3.4-18). As a relative index of availability, approximately 2,197 acres of California annual grassland habitat; 740 acres of ruderal grassland habitat; 245 acres of non-native woodland habitat; 879 acres of agricultural land; and 5,442 acres of barren/developed areas occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their availability ranges from 6 percent for barren/developed areas to 20 percent for agricultural land. Impacts of this magnitude to ruderal grassland, non-native woodland, agricultural, and barren/developed areas do not typically result in adverse effects to biological resources as they are not rare. These habitats are common within the local and regional landscape, and the relative quality of these habitat types is low due to on-going anthropogenic disturbances, including the introduction of intensive agricultural activities and road construction. Many grasslands in the state and within the proposed Project have been subjected to ground disturbance and are heavily colonized by exotic grasses. Such disturbed grasslands provide only marginal habitat for most native plants. However, other less disturbed grassland areas appearing to be dominated by exotic grasses for most of the year may be dominated by numerous species of native annual wildflowers in the spring (Sawyer and Keeler-Wolf 1995). These “wildflower fields” (Holland 1986), which are abundant within the proposed Project in the Antelope Valley, are often difficult to distinguish from disturbed, low diversity grasslands in surveys conducted outside of the spring blooming period. Both types of annual grassland communities are important foraging areas for raptors and other wildlife. The clearance of these areas would require restoration after construction to ensure that type changes from annual grassland to ruderal or barren

habitat does not occur, to ensure storm water runoff does not lead to off-site sediment transport, and to reduce or limit the effects of wildfire on adjacent communities.

Table 3.4-17. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area Excluding NFS Lands*								
Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Woodland Vegetation								
Bigcone Douglas fir-Canyon Oak Forest	0	2:1	0	0.08	1:1	0.08	0	0.08
California Walnut Woodland	1.4	1.5:1	4.2	4.57	1:1	4.57	0	8.77
Coast Live Oak Woodland	0.68	1.5:1	1.36	13.27	1:1	13.27	0	14.63
Joshua Tree Woodland	0.76	2:1	2.28	5.81	1:1	5.81	0	8.09
Mojavean Pinyon Woodland	0	2:1	0	0.28	1:1	0.28	0	0.28
Non-native Woodland	4.63	0:1	0	6.27	0:1	0	0	0
Subtotal	7.47		7.84	30.28		24.01	0	31.85
Shrub-dominated Vegetation								
Big Sagebrush Scrub	0.87	1:1	1.74	2.43	1:1	2.43	0	4.17
Coastal Sage Scrub	7.01	1.5:1	21.03	30.85	1:1	30.85	0	51.88
Desert Saltbush Scrub	0	1:1	0	138.1	1:1	138.1	0	138.1
Mixed Chaparral	2.21	1:1	4.42	7.22	1:1	7.22	0	11.64
Mojave Creosote Bush Scrub	2.82	1:1	5.64	140.42	1:1	140.42	0	146.06
Mojave Mixed Woody Scrub	0	1:1	0	8.61	1:1	8.61	0	8.61
Mojavean Juniper Woodland and Scrub	29.33	1.5:1	87.99	82.73	1:1	82.73	0	170.72
Mulefat Scrub	0	3:1	0	0.04	1:1	0.04	0	0.04
Rabbitbrush Scrub	0	1:1	0	15.04	1:1	15.04	0	15.04
Riversidean Alluvial Fan Sage Scrub	0	3:1	0	1.1	1:1	1.1	0	1.1
Subtotal	42.24		120.82	426.54		426.54	0	547.36
Riparian Vegetation								
Desert Wash	0.12	3:1	0.36	5.1	1:1	5.1	0	5.46
Ruderal Wetland	0.38	0:1	0	0.96	0:1	0	0	0
Exotic-Giant Reed	0	0:1	0	0.02	0:1	0	0	0

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Southern Arroyo Willow Riparian Forest	0	3:1	0	0.77	1:1	0.77	0	0.77
Southern Coast Live Oak Riparian Forest	0	3:1	0	0.42	1:1	0.42	0	0.42
Southern Cottonwood Willow Riparian Forest	0	3:1	0	0	1:1	0	0	0
Southern Sycamore – Alder Riparian Forest	0.1	3:1	0.3	0.79	1:1	0.79	0	1.09
Southern Willow Scrub	0.85	3:1	2.55	0.73	1:1	0.73	0	3.28
Sparsely Vegetated Streambed	0.3	3:1	0.9	0.02	1:1	0.02	0	0.92
Subtotal	1.75		4.11	8.81		7.83	0	11.94
Herbaceous Vegetation								
Bunchgrass Grassland	1.32	1.5:1	3.96	0.01	1:1	0.01	0	3.97
California Annual Grassland	19.32	1:1	38.64	97.25	1:1	97.25	0	135.89
Deerweed and Chia Herbaceous Field, Recently Burned	0	1:1	0	0	1:1	0	0	0
Desert Bunchgrass Grassland	0	1.5:1	0	64.69	1:1	64.69	0	64.69
Ruderal Grassland	22.66	0:1	0	37.91	0:1	0	0	0
Wildflower Field	1.84	1:1	5.52	3.46	1:1	3.46	0	8.98
Subtotal	45.14		48.12	203.32		165.41	0	213.53
Anthropogenic Vegetation								
Agriculture	9.71	0:1	0	163.5	0:1	0	0	0
Barren/developed	84.22	0:1	0	187.44	0:1	0	0	0
Subtotal	93.93		0	350.94		0	0	0
GRAND TOTAL	190.53		180.89	1019.89		623.79	0	804.68

*Disturbance acreages were developed based on GIS information provided by SCE and the FS. Not all areas of potential disturbance were included in the GIS information. See Chapter 2 for disturbance calculations.

Vegetation communities listed in **bold** are considered rare and worthy of consideration by the CDFG. (CDFG, 2003a)

Table 3.4-18. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area within the Angeles National Forest*

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Woodland Vegetation								
Bigcone Douglas fir-Canyon Oak Forest	3.61	5:1	18.05	8.88	2:1	17.76	0	35.81
Canyon Oak Forest	6.78	5:1	33.90	19.29	1:1	19.29	0	53.19
Coast Live Oak Woodland	0	5:1	0	0.29	1:1	0.29	0	0.29
Coulter Pine Forest	0.54	3:1	1.62	2.26	1:1	2.26	0	3.88
Mojavean Pinyon Woodland	1.05	5:1	5.25	1.46	2:1	2.92	0	8.17
Nonnative woodland	2.45	3:1	7.35	10.46	1:1	10.46	0	17.81
Yellow Pine Forest	0	3:1	0	2.73	1:1	2.73	0	2.73
Subtotal	14.55		66.77	45.37		55.71	0	122.48
Shrub-dominated Vegetation								
Big Sagebrush Scrub	0.07	3:1	0.21	0	1:1	0	0	0.21
Chamise Chaparral	2.63	3:1	7.89	18.15	1:1	18.15	0	26.04
Coastal Sage Scrub	0.10	5:1	0.50	0.32	2:1	0.64	0	1.14
Interior Live Oak Scrub	0.95	5:1	4.75	3.14	1:1	3.14	0	7.89
Mixed Chaparral	23.15	3:1	69.45	104.85	1:1	104.85	0	174.30
Mojavean Juniper Woodland and Scrub	0.87	5:1	4.35	1.49	2:1	2.98	0	7.33
Mojavean Pinyon and Juniper Woodland, Recently Burned	2.93	5:1	14.65	6.01	2:1	6.01	0	20.66
Scrub Oak Chaparral	2.25	5:1	11.25	4.82	1:1	4.82	0	16.07
Subtotal	32.95		113.05	138.78		140.59	0	253.64
Riparian Vegetation								
California Bay Forest	0.12	5:1	0.60	0	1:1	0	0	0.60
Desert Wash	0.05	5:1	0.25	0	2:1	0	0	0.25
Southern Arroyo Willow Riparian Forest	0	5:1	0	0.25	2:1	0.50	0	0.50
Southern Coast Live Oak Riparian Forest	0.07	5:1	0.35	0	2:1	0	0	0.35
Southern Cottonwood-Willow Riparian Woodland	0.03	5:1	0.15	0.30	2:1	0.60	0	0.75
Southern Sycamore – Alder Riparian Forest	0.31	5:1	1.55	0.31	2:1	0.62	0	2.17

Table 3.4-18. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area within the Angeles National Forest*

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Southern Willow Scrub	0.31	5:1	1.55	0	2:1	0	0	1.55
Sparsely Vegetated Streambed	0.01	5:1	0.05	0.02	2:1	0.04	0	0.09
Subtotal	0.78		3.90	0.88		1.76	0	5.66
Herbaceous Vegetation								
California Annual Grassland	0.06	3:1	0.18	8.39	1:1	8.39	0	8.57
Deerweed and Chia Herbaceous Field, Recently Burned	2.25	3:1	6.75	10.99	2:1	21.98	0	28.73
Subtotal	2.31		6.93	19.38		30.37	0	37.30
Anthropogenic Vegetation								
Barren/Developed	41.39	0:1	0	40.02	0:1	0	0	0
Ruderal Grassland	0	0:1	0	0	0:1	0	0	0
Subtotal	41.39		0	40.02		0	0	0
GRAND TOTAL	91.98		190.65	244.43		228.43	0	419.08

*Disturbance acreages were developed based on GIS information provided by SCE and the FS. Not all areas of potential disturbance were included in the GIS information. See Chapter 2 for disturbance calculations.

Vegetation communities listed in **bold** are considered rare and worthy of consideration by the CDFG. (CDFG, 2003a)

As described above with the exception of agricultural or barren/developed land, construction activities that result in disturbance to non-native or annual grasslands could lead to the spread or colonization of exotic weeds and could lead to type changes to more ruderal or disturbed habitats. While SCE proposes to implement APM BIO-2 which indicates that a Revegetation Plan would be prepared for native habitats, the APM does not address impacts to annual grasslands or ruderal habitats and does not provide details as to the contents of the Revegetation Plan.

Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, Big Sagebrush Scrub, Deerweed and Chia Herbaceous Field (recently burned), Rabbitbrush Scrub, and Desert Saltbush Scrub Habitat

These xeric plant communities occur primarily within the Northern Region of the proposed Project between the proposed wind farm areas and the Vincent Substation. Many of these areas, particularly areas mapped as Mojave creosote bush scrub, are highly degraded by intensive, yearly sheep grazing. Construction of the proposed Project would result in the loss of approximately 143 acres of Mojave creosote bush scrub habitat, 9 acres of Mojave mixed woody scrub habitat, 3 acres of big sagebrush scrub, 13 acres of deerweed and chia herbaceous field (recently burned) habitat, 15 acres of rabbitbrush scrub habitat, and 138 acres of desert saltbush scrub habitat. Approximately 2,793 acres of Mojave creosote bush scrub habitat, 350 acres of Mojave mixed woody scrub habitat, 273 acres of deerweed and chia herbaceous field (recently burned), 408 acres of rabbitbrush scrub habitat, and 292 acres of desert saltbush scrub habitat occur within mapped areas along the proposed Project. This approximate loss of these habitats relative to this index of their availability ranges from 4 percent for rabbitbrush scrub habitat

to 47 percent for desert saltbrush scrub. In addition to being abundant within the proposed Project, these habitats are regionally abundant: the West Mojave Plan (WMP), which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project, lists 5,683,646 acres of Mojave creosote scrub habitat; 114,982 acres of big sagebrush scrub habitat; 7,842 acres of rabbitbrush scrub habitat; and 802,701 acres of desert saltbush scrub as occurring within the WMP planning area (BLM 2005). Furthermore, much of these habitats are less likely to be developed as they are under BLM, NPS, FS, or Department of Defense (DOD) ownership. However, 32 percent of the lands within the WMP planning area are privately owned and one percent is owned by the State of California. A portion of these areas is likely to be developed as ongoing urbanization in the planning area continues. Recently burned areas are in an early successional state, and may currently support numerous species of ephemeral fire-following native wildflowers.

Chamise Chaparral, Mixed Chaparral, and Scrub Oak Chaparral Habitats

Chaparral-based vegetation types such as those listed above occur in the central and southern portions of the proposed Project. Implementation of the proposed Project would result in the direct removal of approximately 21 acres of chamise chaparral habitat, 137 acres of mixed chaparral habitat, and 7 acres of scrub oak chaparral habitat. These habitats are locally and regionally abundant. As a relative index of availability, approximately 357 acres of chamise chaparral habitat, 3,304 acres of mixed chaparral habitat, and 183 acres of scrub oak chaparral habitat occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their availability ranges from four percent for mixed chaparral and scrub oak chaparral to six percent for chamise chaparral. Much of this habitat in the region is not likely to be developed as it is under state or federal ownership. As described above, while relatively common, the loss of these habitats can result in the spread of noxious or invasive weeds, alter the fire regime of a given area, or have the potential to support rare species of plants and wildlife. Specific discussions regarding the loss of foraging or nesting habitat and impacts to special-status species are located below.

Joshua Tree Woodland, Mojave Juniper Woodland and Scrub, and Mojave Pinyon Woodland Habitat, Including Mojave Juniper and Pinyon Woodland (recently burned), and Removal of Joshua trees and Juniper Trees

These plant communities occur primarily within the Northern Region of the proposed Project between the proposed wind farm areas and the Vincent Substation. Construction of the proposed Project would result in the loss of approximately 7 acres of Joshua tree woodland habitat, 114 acres of Mojave juniper woodland and scrub habitat, 3 acres of Mojave pinyon woodland habitat, and 9 acres of recently burned Mojavean juniper and pinyon woodland habitat (Tables 3.4-17 and 3.4-18). As a relative index of availability, approximately 142 acres of Joshua tree woodland habitat; 1,098 acres of Mojave juniper woodland and scrub habitat; 76 acres of Mojave pinyon woodland habitat; and 212 acres of recently burned Mojavean juniper and pinyon woodland habitat occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their availability ranges from 4 percent for Mojave pinyon woodland and recently burned Mojavean juniper and pinyon woodland habitat to ten percent for Mojave juniper woodland and scrub. The WMP, which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project, states that 28,826 acres of Joshua tree woodland and 62,986 acres of juniper woodland occur within the West Mojave Desert (BLM 2005).

Joshua tree and juniper woodland habitats support unique assemblages of plant and wildlife species, and despite the acreage provided in the WMP for existing habitat, vast acreages of these habitats have been

lost over the last several decades due to urbanization and agricultural activities in the Antelope Valley. In general, other desert plant communities lack vertical structure and shade. However, these habitats provide the important structural characteristics for mammals and avian species. Additionally, unlike herbaceous or shrub-dominated habitats, arid woodlands are extremely slow developing, with mature juniper and pinyon woodlands requiring as much as 150 years to reach full maturity (Wangler and Minnich, 1996). Due to the unique floristic composition and structure of these communities, and due to historic and on-going losses, several local plans, ordinances, and policies have designated Joshua tree woodland and juniper woodland habitats as special status. The overall approach to mitigation of impacts to special-status habitats is to avoid impacts through redesign of tower locations, spur roads, pulling locations, and staging areas, particularly with regards to habitat types containing large tree species, where individual trees or clumps of trees can be avoided. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing habitats.

California Walnut Woodland Habitat

California walnut woodland habitat occurs primarily in the southern portion of the proposed Project area (Figure 3.4-4, located in the TRTP Draft EIR/EIS Map & Figures Series Volume). Loss of approximately 6 acres of California walnut woodland habitat will occur as a result of the proposed Project through the replacement of transmission towers. The CNDDDB (CDFG 1995) estimates that there are approximately 14,579 acres of California walnut woodland habitat present within the State of California, restricted to a highly fragmented range within the southern portion of the state. As California walnut woodland is considered a special-status habitat by CDFG, and California walnut trees are included on CNPS list 4.2, any Project-related impacts to California walnut woodland or individual trees would be considered adverse. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing California walnut woodland habitats.

Bunchgrass Grassland and Desert Bunchgrass Grassland Habitat

Bunchgrass grassland is found within the southern portions of the proposed Project, while desert bunchgrass grassland is restricted to the Northern Region. Loss of approximately one acre of bunchgrass grassland habitat and 65 acres of desert bunchgrass grassland habitat would occur as a result of the proposed Project through construction of roads, the Whirlwind Substation, pulling stations, and staging areas, and the replacement of transmission towers. As a relative index of availability, approximately 29 acres of bunchgrass grassland habitat and 325 acres of desert bunchgrass grassland habitat occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their availability is three percent and 20 percent for bunchgrass grassland and desert bunchgrass grassland habitat, respectively. Approximately 1,730 acres of bunchgrass grassland habitat (a.k.a. valley needlegrass grassland habitat) are estimated to occur within the area covered by the WMP, which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project; and 74,132 acres of desert bunchgrass grassland habitat (a.k.a. desert stipa habitat) are estimated to be present within the State of California (CDFG 1995, BLM 2005). CDFG considers stands dominated by valley needlegrass or desert stipa rare or unique, and worthy of consideration (CDFG 2007).

Bigcone Douglas Fir-canyon Oak Forest Habitat

This plant community occurs within the central portion of the proposed Project alignment on NFS lands. Construction of the proposed Project would result in the loss of approximately 13 acres of bigcone Douglas fir-canyon oak forest habitat. Thus, two percent of the approximately 494 acres of bigcone

Douglas fir-canyon oak forest habitat occurring within mapped areas along the central portion of the proposed Project within the ANF would be affected. The CNDDDB estimates that there are approximately 84,570 acres of bigcone Douglas fir-canyon oak forest present within the State of California (CDFG 1995). Bigcone Douglas fir is endemic to California and only commonly occurs within southern California (CalFlora 2007) in the Transverse, San Jacinto, and southern Coast Ranges.

Canyon Live Oak Forest, Interior Live Oak Scrub, and Coulter Pine Forest Habitat

These vegetation types are restricted to the Central Region of the proposed Project. Construction activities associated with the proposed Project would result in the loss of approximately 41 acres of canyon live oak forest habitat, 4 acres of interior live oak scrub habitat, and 3 acres of Coulter pine forest habitat. Data compiled from the CNDDDB lists 428,975 acres of canyon live oak forest habitat; 669,408 acres of interior live oak scrub habitat; and 100,078 acres of Coulter pine forest habitat as occurring within the State of California (CDFG 2005). In addition, as a relative index of availability, approximately 584 acres of canyon live oak forest habitat, 106 acres of interior live oak scrub habitat, and 105 acres of Coulter pine forest habitat were included in mapping efforts for the proposed Project. The approximate loss of these habitats relative to their availability in the Project area is 3 percent for Coulter pine forest habitat, 4 percent for interior live oak scrub, and 7 percent for canyon live oak forest habitat. Regionally, much of this habitat is not likely to be developed as it is under State or federal ownership.

Coast live Oak Woodland Habitat

This habitat is restricted to southern portions of the proposed Project and along the southern border of the ANF. Loss of approximately 14 acres of coast live oak woodland habitat would occur as a result of the proposed Project. This habitat is locally and regionally abundant and only two percent of the approximately 584 acres of coast live oak woodlands mapped within the proposed Project area will be affected. Data compiled from CNDDDB lists 289,608 acres of coast live oak woodland habitat as occurring within the State of California (CDFG 1995). While this habitat is regionally abundant, it is important foraging and nesting habitat for a variety of wildlife including spotted owl. In addition, this habitat provides valuable mast (acorn) crops which are important to foraging wildlife, such as quail or squirrels. Coast live oak woodland habitat is very slow growing and even modest impacts may take years to replace.

Riversidean Alluvial Fan Sage Scrub Habitat

This community type is present on river terraces at the border of the ANF. Implementation of the proposed Project would result in the loss of approximately one acre of Riversidean alluvial fan sage scrub habitat. This habitat, while once abundant, has been lost through widespread urbanization and flood control activities in drainages such as the San Gabriel River. Mapping along the proposed Project shows approximately 45 acres of Riversidean alluvial fan sage scrub habitat. Thus, a loss of one acre represents about two percent of this habitat mapped along the proposed Project. Losses within the proposed Project will primarily affect a subset of this habitat type termed the “pioneer zone” (Smith, 1980), which mainly occurs on frequently scoured channel bottoms (see Appendix H of the *Biological Specialist Report* [Aspen, 2008], Vegetation Type Descriptions). CDFG regards Riversidean alluvial fan sage scrub as rare and worthy of consideration (CDFG, 2003a). Because this vegetation type is in decline, the loss of even small areas is considered adverse. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing Riversidean alluvial fan sage scrub.

Coastal Sage Scrub Habitat

Coastal sage scrub is present within southern portions of the proposed Project (e.g., Chino and Puente Hills), as well as on lower elevation slopes within the southern portion of the ANF. Loss of approximately 38 acres of coastal sage scrub habitat would occur as a result of the proposed Project. This habitat is regionally abundant. For reference, only four percent of the approximately 869 acres of coastal sage scrub habitat mapped within the proposed Project would be affected. However, this habitat provides a unique vegetation structure and set of foraging resources that supports certain avian species including the State and federally listed California gnatcatcher, and has experienced rapid decline in the past decade from increasing development of coastal areas within southern California and increased fire intervals causing type conversion to non-native annual grasslands. SCE intends to avoid impacts to this habitat through redesign of tower locations, spur roads, pulling locations, and staging areas. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing habitats.

Impacts to riparian vegetation are discussed under Impact B-2 (The Project would result in the loss of desert wash or riparian habitat) below.

Annosus Root Disease

During the clearing and grading of existing roads, helicopter landing pads, tower locations, staging areas and other locations SCE would cut or remove native trees. This can expose otherwise healthy trees in adjacent areas to Annosus root disease, or fomes annosus (*Heterobasidion annosum*), a fungus that attacks a wide range of woody plants causing a decay of the roots and butt and the death of sapwood and cambium. All conifer species and many hardwood species in California are susceptible to the fungus. The fungus can become established in freshly cut tree stumps through airborne spores and then spread to remaining trees nearby through the conifer's root systems. The disease spreads outward, killing trees in a circular pattern until they reach barriers, such as openings or non-susceptible plants. Once fomes annosus is established in an area, it is easily spread from freshly cut stumps to adjacent trees (USDA, 2005). The fungus can remain alive for as long as 50 years in the roots and stumps. Because the disease results in mortality of trees, it can create hazard trees, deplete vegetative cover, and result in adverse effects to wild land ecology (USDA, 2005).

Regional direction states the best form of management for this root disease is prevention, including treatment of freshly-cut conifer stumps with registered products such as Sporax. The FS Manual (FSM 2303.14 R5 supplement 2300-92-1), FS Handbooks (FSH 2109.14 and FSH 3409.11-94-1), and the ANF Management Plan (Vegetation Management Standard S5) require treatment of all conifer stumps in recreation areas and provide direction and guidance for its use. The application of Sporax to freshly cut stumps significantly reduces the risk of fomes annosus infestation to adjacent conifers.

To reduce the effects of fomes annosus on native trees SCE would implement Mitigation Measure B-1c (Treat cut tree stumps with Sporax). The active ingredient in Sporax is borax, a naturally occurring mineral made of sodium, boron, oxygen, and water. Borax is virtually nontoxic to humans, birds, fish, and to aquatic invertebrate animals. Sporax would be applied in localized treatments, has low toxicity, and would not be used during rain events. Based on this, use of Sporax to prevent the spread of fomes annosus would not result in adverse impacts to plants or wildlife.

Implementation of the proposed Project would result in permanent, temporary, and long-term temporary effects to both native and non-native vegetation communities. SCE has indicated that the APMs, described

in Table 3.4-16, would be implemented as part of the proposed Project to avoid or minimize impacts to native vegetation communities: APM BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, and BIO-7. These APMs include avoiding or compensating for impacts to vegetation communities, personnel training, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes.

As proposed the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, do not identify BMPs, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate, mitigation measures are presented to further reduce impacts of the proposed Project on vegetation communities. Implementation of Mitigation Measure B-1a (Provide Restoration/Compensation for Impacts to Native Vegetation Communities) would reduce impacts of the Project and include mitigation ratios developed in consultation with the FS, USACE, CDFG, and CPUC. This measure also provides more specific information on the required Revegetation Plan, and includes the FS, USACE, CDFG, and CPUC, and Chino Hills State Park (on Park Lands only) as approving agencies. It should be noted that mitigation requirements and mitigation ratios for common habitats located outside of NFS lands are focused primarily on the restoration of temporarily disturbed areas and the control or spread of exotic and noxious weeds. To further reduce impacts of the proposed Project on the plant communities above, SCE shall also implement Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-1

B-1a Provide restoration/compensation for impacts to native vegetation communities. The intent of this mitigation measure is to require SCE to restore disturbed sites to pre-construction conditions or the desired future conditions per the Angeles National Forest (ANF), Land Management Plan (LMP). Prior to construction SCE shall have a qualified biologist, where concurrence on the biologist has been provided by the CPUC and FS, document the community type and acreage of vegetation that would be subject to project disturbance. Impacts to all oaks and native trees (with >3 inch diameter at breast height [DBH]) will be documented by identifying the species, number, location, and DBH. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance. Tree removal shall not be permitted until replacement trees have been planted or transplanting sites are approved.

For NFS lands, the FS shall prepare a Habitat Restoration and Revegetation Plan in discussion with SCE for the Project, which shall include plans for restoration, enhancement/re-vegetation and/or mitigation banking. For non-Federal lands SCE shall prepare the Plan. The plan shall include at minimum: (a) the location of the mitigation site (off site mitigation may be required); (b) locations and details for top soil storage (c) the plant species to be used; (d) seed and cutting collecting guidelines; (d) a schematic depicting the mitigation area; (e) time of year that the planting will occur and the methodology of the planting; (f) a description of the irrigation methodology for container, bareroot or other planting needing irrigation; (g) measures to control exotic vegetation on site; (h) success criteria; (i) a detailed monitoring program; j) locations and impacts to all oaks and native trees (over 3 inches DBH).

SCE shall utilize a CPUC/FS/USACE/State Parks (for Alternative 4 only)-approved locally collected seed mix, locally collected cuttings, bare-root stock, etc. to revegetate areas disturbed by construction activities. FS approval is required for seeding on NFS land. The seed mix shall consist of native, locally occurring species collected from local seed sources. Cuttings and bare-root stock shall be of local origin. Restoration shall include the revegetation of stripped or exposed work sites and/or areas to be mitigated with vegetation native to the area. No commercially purchased seeds, stock, etc will be accepted without the approval of the FS on NFS lands and must be certified to be free of noxious weeds. Revegetation shall include ground cover, grass, shrub, and tree species in order to match disturbed areas to surrounding conditions and to restore or improve wildlife habitat quality to pre-project or higher levels. The Habitat Restoration and Revegetation Plan shall also include a monitoring element. Post seeding and planting monitoring will be yearly from years one to five and every other year from years six to ten, or until the success criteria are met. SCE shall restore temporarily disturbed areas, including existing tower locations that are to be removed by the Project, to pre-construction conditions or the desired future conditions per the LMP. If the survival and cover requirements have not been met, SCE is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements as previously mentioned.

The FS will conduct a preconstruction evaluation of the probable impacts to all oaks and native trees in all construction-related disturbance areas. This evaluation shall be incorporated into the Habitat Restoration Plan and shall include the species and number of individuals, their DBH, location and potential impact type. Construction within the driplines of all native trees and oak trees/shrubs, and incidental trimming or damage to trees along the proposed access/spur routes shall not occur until the trees are evaluated by an FS botanist or qualified arborist. This person shall identify appropriate measures to minimize tree loss, such as the placement of fence around the dripline, padding vehicles, minimizing soil removal or addition around driplines, and the placement of matting under the existing dripline during construction activities. On the ANF, if a tree must have any construction-related activities such as equipment or soil staging within the drip zone, root pruning, or excessive branch pruning (greater than 25% in one year), then the tree must be monitored for five years for tree mortality. If any of these identified trees dies during the monitoring period, then the tree must be mitigated at the rate appropriate to the DBH.

The replacement ratios (using rooted plants in liners or direct planting of acorns [for oaks]) for native trees or any oaks which are to be removed shall be as follows: trees less than 5 inches DBH shall be replaced at 3:1; trees from 5 to 12 inches shall be replaced at 5:1; trees from 12 to 24 inches shall be replaced at 10:1; trees from 24 to 36 inches shall be replaced at 15:1; and all oaks greater than 36 inches shall be replanted at a ratio of 20:1. The replacement ratio for damaged trees shall be 2:1 for trees with DBH less than 12 inches and a 5:1 ratio for trees with DBH greater than 12 inches. The DBHs for scrub oaks will be measured using following DFG guidelines. On the ANF any oak or native tree which must be removed or killed as a result of construction or other Project-related activities shall be replaced in kind or mitigated at a comparable value. Compliance shall be evaluated annually for years one to five and bi-annually for years six to ten (years after tree planting). Trees shall be planted at locations acceptable to the landowner or managing agency. All planting locations, procedures, and results shall be evaluated by a qualified arborist and FS botanist. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance.

Permanent impacts on federal lands shall be determined by the appropriate federal manager (FS and USACE) and on non-federal lands shall be determined by the CPUC at the ratios stated below or at a comparable value. On NFS lands impacts will be considered permanent if they are not likely to recover after ten years post-disturbance. Where onsite restoration is planned for mitigation of temporary impacts to vegetation communities, SCE shall identify a Habitat Restoration Specialist, where concurrence has been provided by the CPUC/FS, to implement the method of restoration outlined by the FS in the Habitat Restoration Plan.

The creation or restoration of habitat shall be monitored annually for years one to five and bi-annually for years six to ten, or until the success criteria are met, after mitigation site construction to assess progress and identify potential problems with the restoration site. Remediation activities (e.g. additional planting, removal of non-native invasive species, or erosion control) shall be taken during the ten-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the ten-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the ten-year period until the criteria are met or unless otherwise specified by the CPUC/FS/USACE/State Parks (as appropriate). If a fire occurs in a revegetation area within the ten year monitoring period, SCE shall be responsible for a one-time replacement. If a second fire occurs, no replanting is required, unless the fire is caused by SCE activity. Off-site mitigation for NFS and non-NFS lands may be required if mitigation rates exceed what can be achieved on NFS land. This may be in the form of funding for land purchase for inclusion into the Angeles National Forest, mitigation banking, removing existing structures, or comparable restoration efforts.

During and after construction, FS-identified entrances to access roads on NFS lands shall be gated or blockaded in some manner and maintained to prevent the unauthorized use of these roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.

Mitigation Ratios for Impacts to Vegetation Communities				
Vegetation Community	Mitigation Ratios – Non-NFS Lands		Mitigation Ratios – NFS/Federal Lands	
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Woodland Vegetation				
Bigcone Douglas Fir-Canyon Oak Forest	1:1	2:1	2:1	5:1
Canyon Oak Forest	-	-	1:1	5:1
California Bay Forest	1:1	2:1	1:1	5:1
California Walnut Woodland	1:1	1.5:1	-	-
Coast Live Oak Woodland	1:1	1.5:1	1:1	5:1
Coulter Pine Forest	-	-	1:1	3:1
Joshua Tree Woodland	1:1	2:1	-	-
Mojavean Pinyon Woodland	1:1	2:1	2:1	5:1
Non-native Woodland	0:1	0:1	0:1	0:1
Yellow Pine Forest	-	-	1:1	3:1
Shrub-dominated Vegetation				
Big Sagebrush Scrub	1:1	1:1	1:1	3:1
Coastal Sage Scrub	1:1	1.5:1	2:1	5:1
Desert Saltbush Scrub	1:1	1:1	-	-
Chamise Chaparral	-	-	1:1	3:1
Mixed Chaparral	1:1	1:1	1:1	3:1
Scrub Oak Chaparral	-	-	1:1	5:1
Interior Live Oak Scrub	-	-	1:1	5:1
Mojave Creosote Bush Scrub	1:1	1:1	-	-

Mitigation Ratios for Impacts to Vegetation Communities				
Vegetation Community	Mitigation Ratios – Non-NFS Lands		Mitigation Ratios – NFS/Federal Lands	
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Mojave Mixed Woody Scrub	1:1	1:1	-	-
Mojavean Juniper Woodland and Scrub	1:1	1.5:1	2:1	5:1
Mojavean Pinyon and Juniper Woodland, Recently Burned	-	-	2:1	5:1
Mulefat Scrub	1:1	3:1	2:1	5:1
Rabbitbrush Scrub	1:1	1:1	-	-
Riversidean Alluvial Fan Sage Scrub	1:1	3:1	2:1	5:1
Riparian Vegetation				
Desert Wash	1:1	3:1	2:1	5:1
Ruderal Wetland	0:1	0:1	-	-
Exotic-Giant Reed	0:1	0:1	0:1	0:1
Southern Arroyo Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Coast Live Oak Riparian Forest	1:1	3:1	2:1	5:1
Southern Cottonwood Willow Riparian Forest	1:1	3:1	2:1	5:1
Southern Sycamore-Alder Riparian Forest	1:1	3:1	2:1	5:1
Southern Willow Scrub	1:1	3:1	2:1	5:1
Sparsely Vegetated Streambed	1:1	3:1	2:1	5:1
Herbaceous Vegetation				
Bunchgrass Grassland	1:1	1.5:1	-	-
California Annual Grassland	1:1	1:1	1:1	3:1
Deerweed and Chia Herbaceous Field, Recently Burned	1:1	1:1	2:1	3:1
Desert Bunchgrass Grassland	1:1	1.5:1	-	-
Wildflower Field	1:1	1:1	2:1	3:1
Anthropogenic Vegetation				
Agriculture	0:1	0:1	-	-
Barren/developed	0:1	0:1	0:1	0:1
Ruderal Grassland	0:1	0:1	0:1	0:1
Ratios on Non NFS Lands may be adjusted based on existing site conditions and disturbance levels with approval of the CPUC. Ratios could range from 0.5 to maximum noted in this Table based on site evaluation.				

B-1b Implement a Worker Environmental Awareness Program. A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by SCE, where concurrence has been provided by the CPUC/FS prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to: discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; fire protection measures; sensitivities of working on NFS lands and identification of FS sensitive species; hazardous substance spill prevention and containment measures; a contact person in the event of the discovery of dead or injured wildlife; and review of mitigation requirements. Training materials and a course outline shall be provided to the CPUC and FS for review and approval at least 30 days prior to the start of construction. Maps showing the location of special-status wildlife, fish, or populations of rare plants, exclusion areas, or other

construction limitations (i.e., limited operating periods) will be provided to the environmental monitors and construction crews prior to ground disturbance. SCE shall provide to the CPUC and FS a list of construction personnel who have completed training prior to the start of construction, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field for more than 5 days without participating in the WEAP.

B-1c Treat cut tree stumps with Sporax. All stumps of trees (conifers and hardwoods) 3 inches DBH or greater resulting from activities associated with construction of the Project shall be treated with Sporax according to product directions to prevent the spread of annosus root disease. Only licensed applicators shall apply Sporax. Sporax shall not be used during rain events unless otherwise approved by the CPUC/FS/USACE.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Implementation of the proposed Project would result in the direct and permanent loss of both common and special-status plant communities. Some of the plant communities in the Project area have widespread distributions, are common, and are both locally and regionally abundant. These include:

- Mojave creosote bush scrub
- Mojave mixed woody scrub
- Big sagebrush scrub
- Deerweed and chia herbaceous fields
- Rabbitbrush scrub
- Desert saltbush scrub
- Chamise habitats
- Scrub oak chaparral habitat
- Oak woodlands
- Canyon live oak forest
- Interior live oak scrub
- Coulter pine forest

The loss of plant communities including California annual grassland, ruderal grassland, non-native woodland, agricultural, and barren/developed habitats would typically be considered an adverse but less-than-significant impact (Class III). These communities are locally and regionally abundant and are typically dominated by exotics. Generally, additional mitigation would not be required unless these communities occur within designated critical habitat for a federally listed species (i.e., only critical habitat with constituent elements of the species' habitat, and not developed land, for example) or are known to support special-status plant species or wildlife that utilize these areas for foraging or nesting.

The native plant communities identified above, while not regionally unique and still fairly abundant in the region, still provide valuable foraging and nesting habitat for a suite of wildlife species. Therefore, construction activities that result in the loss of these communities would be considered significant absent mitigation (Class II).

Other communities have more restrictive ranges (e.g., California walnut woodland habitat) or are of limited distribution in the Project region such as Riversidean coastal sage scrub and bigcone Douglas fir. Due to the limited distribution of bigcone Douglas fir and the historic and on-going losses to this community, the CDFG has designated bigcone Douglas fir habitat as vulnerable to extirpation or extinction (2007). Other communities consist of unique and or important habitats for wildlife (Joshua tree woodland and Mojave juniper woodland and scrub), or have been subject to historic and on-going losses

due to grazing, agriculture, and urbanization (e.g. bunchgrass grassland and desert bunchgrass grassland). In addition, some of these communities respond poorly to disturbance and may take decades to recover (e.g., Joshua tree woodland, desert communities, oak woodlands). These include:

- Joshua tree woodland
- Mojave juniper woodland and scrub
- Mojave pinyon woodland
- Mojavean juniper
- Pinyon woodland
- California walnut woodland
- Bunchgrass grassland
- Desert bunchgrass grassland
- Bigcone Douglas fir
- Canyon live oak
- Riversidean coastal sage scrub
- Coastal sage scrub

As described above, with the exception of agricultural or barren/developed land, construction activities that result in the disturbance to the plant communities identified above would be considered a significant impact absent mitigation (Class II). While SCE proposes to implement APM BIO-2 which indicates that a Revegetation Plan would be prepared for native habitats, the APM does not address impacts to annual grasslands or ruderal habitats.

SCE has indicated that the APMs, described in Table 3.4-16, would be implemented as part of the proposed Project to avoid or minimize impacts to native vegetation communities: APM BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, and BIO-7. These APMs include avoiding or compensating for impacts to vegetation communities, personnel training, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes.

As proposed the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, do not identify BMPs, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate, mitigation measures are presented to further reduce impacts of the proposed Project on vegetation communities. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts of the Project to less-than-significant levels (Class II) and include mitigation ratios developed in consultation with the FS, USACE, CDFG, and CPUC. These measures also provide more specific information on the required Revegetation Plan, and include the FS, USACE, CDFG, and CPUC, and Chino Hills State Park (on Park Lands Only) as approving agencies. It should be noted that mitigation requirements and mitigation ratios for common habitats located outside of NFS lands are focused primarily on the restoration of temporarily disturbed areas and the control or spread of exotic and noxious weeds. For some habitats there is no requirement for SCE to obtain additional habitat to offset the permanent impact.

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

Riparian and wash communities occur in a variety of the surface water resources that are present in the proposed Project area. Riparian and wash habitat within the proposed Project is highly diverse and encompasses several stand types. These include:

- Desert wash
- California bay forest
- Southern coast live oak riparian forest
- Southern cottonwood willow riparian forest
- Southern sycamore-alder riparian woodland
- Southern willow scrub

- Southern arroyo willow riparian forest

These communities occur in desert washes and other streams, the majority of which support flow only after seasonal rains. However, several large perennial waterways are also present, particularly in the central portion of the Project area on NFS lands. Specific impacts to State and federally protected waters (jurisdictional resources) are discussed in Impact B-39 below.

The primary main drainages within the Northern Region of the proposed Project include: Amargosa Creek, Oak Creek, Cottonwood Creek, and the Santa Clara River. The mountainous watersheds of the Central Region, which occurs primarily on NFS lands, support both rivers and creeks, including Big Tujunga Creek, the San Gabriel River, Santa Clara River, and the Arroyo Seco Creek. The primary drainage feature in the Southern Region is the San Gabriel River, which parallels Segment 7 through the San Gabriel Valley, and Aliso Creek which drains into the Santa Ana River.

In addition, the Project area supports riparian habitat at numerous tributaries and small creeks which run through the Southern and Central regions of the Project area. These include but are not limited to Monte Cristo Creek, an intermittent creek east of Monrovia Peak; drainages near Cold Springs, Upper Big Tujunga, Aliso, Turnbull, and Powder Canyons; in several areas along the Whittier Narrows in the Southern Region; near little Chino Creek; along Amargosa Creek and its unnamed tributaries in the Leona Valley in the Northern Region of the Project; and along unnamed tributaries to Anaverde Creek near Pelona Ridge. In addition, the proposed Project spans a number of small, unnamed drainages that support remnant riparian habitat in the foothill regions of the proposed Project.

Direct impacts to desert wash and riparian habitat would include the temporary disturbance and permanent removal of native vegetation within these communities. The proposed Project will result in the direct loss of approximately 5 acres of desert wash habitat, 0.3 acre of southern cottonwood willow riparian forest, 1.5 acres of southern sycamore-alder riparian forest, and 2 acres of southern willow scrub habitat. The loss of approximately 0.1 acre of California bay forest, 0.5 acre of southern coast live oak riparian forest, and 1 acre of southern arroyo willow riparian forest would also occur during the course of access road widening, spur road construction, and grading for helicopter staging areas.

Indirect impacts to these communities would be similar to those discussed for native vegetation communities (Impact B-1), above. These would include increased sediment transport, alterations to existing topographical and hydrological conditions, fugitive dust accumulation, and the introduction of non-native, invasive plant species.

During the construction and operation of the proposed Project, impacts could include trampling and crushing of native plants by increased vehicular and human traffic, increased erosion and sediment transport, and the introduction of noxious and exotic weeds due to increased human presence.

Desert wash habitat occurs primarily within the Northern Region of the proposed Project (Segment 10) and is a limited resource in the Antelope Valley. This resource is also present in the Kentucky Springs Canyon region north of and transitioning into the ANF. Approximately 269 acres of desert wash was mapped in the Project footprint and the loss from construction of the proposed Project represents a reduction of approximately two percent of the mapped resource. Activities associated with the construction of transmission line towers and roads, pulling stations, and staging areas could substantially degrade and remove desert wash habitat within the Project boundaries. Although this unique hydrogeomorphic landform is relatively common in parts of the Antelope Valley, much of this habitat has been lost over the last several decades due to development and agricultural practices, particularly in

undeveloped portions of the Project area where off-road vehicle paths and paved roads transect desert washes. Desert wash habitats play an important role in conveying surface flows during the rainfall season to other habitats located down slope that support special-status plants such as the alkali mariposa lily.

Approximately 10 acres of California bay forest habitat, 69 acres of southern coast live oak riparian forest habitat, 39 acres of southern arroyo willow riparian forest habitat, 29 acres of southern cottonwood willow riparian forest habitat, 72 acres of southern sycamore-alder riparian woodland habitat, and 90 acres of southern willow scrub habitat occurs in several areas of the proposed Project. Project impacts would represent an average range from approximately one percent for southern cottonwood willow riparian forest, California bay forest, and southern coast live oak riparian forest to three percent for southern arroyo willow riparian forest. Due to its ability to support wildlife and the ongoing loss of riparian habitat state wide, CDFG considers riparian habitat to be worthy of consideration, both in general and within each of the specific habitats listed above (CDFG, 2003a).

Some riparian habitat would be impacted from the expansion of the existing access roads. Direct impacts could include removal of wetland/riparian vegetation and/or filling of jurisdictional areas to create stream crossings, particularly in the ANF. Examples of indirect impacts to jurisdictional resources include stream bank erosion and stream sedimentation. Any activities that involve modification of the bed or bank of a State or U.S.-jurisdictional waterway would be regulated by the CDFG, Regional Water Quality Control Board (RWQCB), and USACE. On NFS lands no activities can occur within designated Riparian Conservation Areas (RCAs) without approval from the FS.

Riparian Conservation Areas (RCAs)

An RCA is defined as “an area delineated next to water features requiring special management practices to maintain and/or improve watershed and riparian-dependent resource conditions” (USDA, 2005). Therefore, any riparian areas having important biological and/or hydrologic riparian characteristics within the Project area were identified by the FS as RCAs using the Five-Step Project Screening Process for Riparian Conservation Areas (a detailed description of the Five-Step Process and methods utilized to assess affects to RCAs is presented in the *Riparian Conservation Area Report for the Tehachapi Renewable Transmission Project*).

In general, RCAs include areas containing both aquatic and terrestrial components, and serve as the interface between land and water. Specifically, RCAs can include lands adjacent to perennial, intermittent, or ephemeral streams as well as in and around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps, springs, and other water bodies. These areas are especially important as they are where terrestrial and aquatic systems interact and slope and fluvial processes are tightly interconnected. Water is a limited resource on the ANF and plays an important role in the life histories of many forest dependant species, especially in the semi-arid setting of southern California. As such RCAs are unique areas that support a high diversity of plant and animal species and typically have a high degree of endemism including threatened and endangered species. The variety of wildlife species associated with RCAs on the ANF is high and these species use these areas for breeding, aestivation, foraging, refugia, and as movement corridors (USDA, 2005).

To provide for the management of species that use riparian areas, each RCA has a buffer area of associated upland habitat which corresponds to the unique life history of the species. The size of an RCA is determined by characteristics such as topography, species present, and connectivity to other RCAs. For example, large intermittent and perennial streams dominated by riparian vegetation may support numerous special-status plants and wildlife. These buffers may extend from 30m to over a mile depending of the

type of species that inhabits the RCA. However, even small drainages that may have water for only a short period of time can be crucial resources for breeding (i.e., amphibians and birds), foraging, or wildlife movement corridors. Within the Project area several RCAs support threatened and endangered species including the arroyo toad.

Actions conducted within an RCA must meet specific criteria defined by the FS which include both biological and watershed goals and functions. In addition, actions that result in effects considered other than neutral or beneficial may not be conducted without an amendment to the existing Forest Plan (USDA 2005). Table 3.4-19 provides a concise list of the RCAs that occur within the ANF and those that would require a Plan Amendment.

Table 3.4-19 RCA Crossing Points Summary			
Drainage Type	Crossing Type	Total	Non-Conformity to Forest Plan
ROAD CROSSINGS			
Perennial	Arizona	2	2
	Paved Arizona	2	2
	Washout	1	1
Intermittent	Arizona	44	35
	Paved Arizona	8	3
	CMP	12	6
	Concrete Culvert	1	1
Ephemeral	Arizona	84	38
	Paved Arizona	4	2
	CMP	12	5
	Concrete Culvert	1	0
Subtotal		171	95
LINE CROSSINGS*			
Perennial	N/A	7	0
Intermittent	N/A	63	0
Ephemeral	N/A	26	0
Subtotal		96	0
Total		267	95

*Line crossings were determined by aerial photography and are indicated as such (Figure 3.4-6)

Over 265 RCAs were identified during field assessments for the proposed Project on NFS lands. These RCAs fall within the transmission line ROW or along access roads that would be used and upgraded during construction of the proposed Project. Approximately 96 RCAs occur where the transmission line crosses a substantial stream or drainage. One hundred and seventy-one occur where access or spur roads cross ephemeral, intermittent, or perennial drainages. While riparian areas are considered on both NFS lands and non-NFS lands, RCAs are defined only for the ANF as required by the Forest LRMP. Of the 267 RCAs that occur on NFS lands, 95 would be subject to Project impacts that would not conform to the Forest Plan. These impacts would occur from road grading, tree removal, stream diversion, or similar actions. Other than neutral or beneficial effects to these resources is not consistent with FS guidelines and would require the completion of a Forest Plan Amendment.

RCAs that could be impacted by the proposed Project include a wide range of riparian areas, from ephemeral drainages high in a watershed that contain chaparral or other xeric plant communities to perennial streams surrounded by mature riparian forest. The single largest impact to RCAs from the proposed Project would occur from the widening of the access roads to 16 feet and the construction of

new spur roads. Widening of the access roads in some cases would remove riparian vegetation, including mature oak trees, alders and other riparian trees. In some areas only limited riparian vegetation would be removed where an RCA supports only ephemeral or intermittent flows such as portions of Mill or Alder Creeks. However, in other areas including Monte Cristo Creek, Big Tujunga, Alder, and Lynx Gulch large areas of riparian habitat within designated RCAs would be removed to support vehicle traffic, water crossing construction, and heavy equipment. Currently SCE has proposed to construct a new all-weather crossing at the washed-out structure on Big Tujunga River near the Falls Creek crossing. In addition, SCE would upgrade the existing damaged crossing at the San Gabriel River crossing. Both these actions would involve major construction activities within perennial waterways. The removal of vegetation in these areas would conflict with FS guidelines for the protection of RCAs. However, sediment analysis shows that the amount of sediment anticipated from construction of this project is negligible (see Appendix A [GIS-Based Soil Erosion & Sedimentation Analysis Report] of the Hydrology and Water Quality Specialist Report for the TRTP).

Road expansion could also result in the mobilization of large quantities of sediment that could enter nearby or adjacent RCAs. These impacts would continue to occur throughout the construction phase of the proposed Project, as the dirt access roads that would be utilized are often adjacent to scree-covered slopes that drop debris across the road, are blocked by fallen trees, or are subject to landslides that prevent access. Therefore, road maintenance including periodic grading would occur throughout construction. As RCAs consist of riparian areas and their adjacent upland habitats, these areas support a wide variety of both plants and wildlife.

A formal delineation of each riparian area would be conducted and SCE would apply for permits from the USACE, RWQCB, and CDFG for activities in riparian habitat. In addition, no activities would be allowed within any RCA without the concurrence of the Forest.

Where avoidance of impacts is not feasible SCE shall mitigate through the restoration, enhancement, and/or preservation of existing riparian corridors. SCE has indicated that impacts to jurisdictional waters and wetlands would be minimized or avoided through the implementation of APMs, identified in Table 3.4-16. These include APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to habitats. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not provide defined mitigation ratios, and defer the analysis to a later date. As such, to reduce impacts of the proposed Project on riparian and wash habitats, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-2

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat without the appropriate permits from regulatory agencies. SCE

shall not construct or modify any structure, culvert, or bridge or modify any habitat on NFS lands in Riparian Conservation Areas (RCAs) without the authorization of the FS. Vegetation removal or road construction shall not occur in RCAs during the breeding season for nesting birds (February 1-August 15) unless otherwise approved by the FS. SCE shall prepare and implement a FS RCA Treatment Plan for the Project. This Plan shall include the specific activities that will occur at each of the RCA points crossed by the Project including the amount and type of vegetation to be cleared, the type of road crossing or improvement allowed for wet and dry crossings, and the methods that would be employed to reduce the effects of the Project on water quality. The Plan shall include timing restrictions for vehicle or equipment passage, restrictions on what activities may occur such as grading, vegetation removal or tree trimming, monitoring requirements, seasonal restrictions, and restoration requirements. This Plan shall be submitted to the FS for approval prior to construction or the grading of any access road. The Plan shall also be submitted to the CPUC for review.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

In California more than 95 percent of riparian habitats that were present prior to European settlement have been severely degraded or destroyed (Smith, 1977; Katibah, 1984). While these habitats constitute only a small fraction of the proposed Project area and a low percentage of the total landscape (often less than one percent), they typically accommodate a disproportionately high number of species and provide a larger degree of ecological function than surrounding upland areas (Fischer and Fischenich, 2000). Many aquatic and semi-aquatic species rely on adjacent terrestrial habitats to complete their life cycles (Semlitsch and Bodie, 2003; Spinks et al., 2003; Burke and Gibbons, 1995) and riparian vegetation provides necessary foraging and nesting habitat for many bird species (Rottenborn, 1999; Bolger et al., 1997). In arid regions such as southern California, riparian habitats play a particularly crucial role in maintaining biodiversity because up to 80 percent of vertebrate species rely on them for at least part of their lifecycle (Knopf et al., 1988) and because of the central role riparian habitats play in a variety of ecological functions (Rottenborn, 1999; Fischer and Fischenich, 2000). In the Antelope Valley, large areas of desert wash habitat have been subject to ongoing development. Therefore, because of the overall loss of desert wash and riparian habitat within California, its role in the functional hydrological connectivity of habitats, and its suitability to support several special-status species, the loss of this habitat associated with the proposed Project is significant without mitigation. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II). Adequate mitigation would be achieved through the restoration of disturbed areas and acquiring lands to replace functional habitat values.

Noxious and Invasive Weeds

The term “noxious weeds” includes all plants formally designated by the U.S. Secretary of Agriculture or other responsible State official as such, and these species usually possess one or more of the following characteristics: “aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of

serious insects or disease, and being not native or new to or not common to the United States or parts thereof” (FS Manual 2080.5, 1995).

The introduction of noxious and invasive weeds species is a special concern for native plant communities and is recognized by the FS as a threat to native vegetation communities and wildlife. Noxious and invasive weeds pose a threat to the natural processes of plant community succession, fire frequency, biological diversity and species composition. Noxious and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding a species by vegetative growth.

Several noxious weeds, as defined by the California Invasive Plant Council (Cal-IPC) or the FS, already exist within or near the proposed Project in well-established populations, often clearly associated with a source of disturbance. The Northern Region contains large areas of nonnative annual grasslands, especially where historic and current grazing occurs. In the Central Region of the Project site, the non-native species Spanish broom forms dense colonies along roadsides and other disturbed areas. In the Southern Region of the proposed Project, black mustard (*Brassica nigra*) dominates large areas of grasslands, forming large monocultures that affect native species. Other major stands of noxious weeds identified in surveys of the proposed Project included, but were not limited to, castor bean (*Ricinus communis*), giant reed (*Arundo donax*), and cheat grass (*Bromus tectorum*). A detailed inventory of the noxious and invasive weeds that occur in the vicinity of the proposed transmission line upgrade on the ANF is presented in Appendix A of the *Biological Specialist Report* (Aspen, 2008), Noxious Weed Assessment.

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

As described under Criterion BIO1 (Vegetation), the proposed Project would result in both temporary and permanent loss to a variety of native and non-native plant communities (Tables 3.4-17 and 3.4-18). In total the proposed Project would result in the permanent loss of approximately 283 acres of habitat. On NFS lands approximately 92 acres would be permanently lost through the placement of transmission towers and spur roads. The potential introduction or spread of noxious and invasive weeds would occur primarily during construction activities, but would also continue to occur during operation and maintenance phases of the proposed Project. The introduction of noxious and invasive weeds would be related to ground disturbance from clearing and grading, expansion of access roads, construction of spur roads, and road maintenance; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or wattles that contain seeds of non-native plant species; and enhanced public access to the Project corridor during and after construction. Additionally, weed seeds are often spread on equipment or clothing by construction or maintenance personnel. This would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to be carried into areas that previously were isolated from sources of noxious weed seeds.

For the purpose of this discussion, Project-related disturbance or impacts to all habitats, even disturbances such as grading for temporary road construction, were treated as permanent in large part due to the foreseeable establishment and spread of noxious weeds and the conversion of native habitats to ruderal habitats (or expansion of existing ruderal habitats) following disturbance. Noxious weeds often become established following disturbance. In arid sites or in sites with poor nutrient availability noxious weeds may become established following water and/or nutrient addition such as may occur along roadways as a result of increased runoff or nitrogen deposition.

Typically in areas where few exotic species occur, the characteristics of the existing topsoil structure, cryptogamic crusts, or the existing native vegetation prevent weed seeds from germinating. Once soil disturbance has occurred, the soil structure or native biotic components are affected such that these factors no longer preclude the establishment of noxious or invasive weeds. Following establishment, new populations of weeds are often extremely difficult to eradicate, especially in arid environments. It may take several years or decades to re-establish the native soil structure and biota.

As many noxious weeds occurring in southern California are fast-growing plants adapted to high light conditions, removal of canopy vegetation, either in forests and woodlands or in chaparral and scrub habitats, may release weed seeds present in the seed bank from dormancy and allow them to germinate and establish.

Direct impacts associated with the introduction of noxious weeds could occur when noxious weeds become established in an area. These invasive plant species can cause a permanent or long-lasting change to the environment by increasing vegetative cover, creating a dense layer that prevents native vegetation from germinating, altering the edaphic and hydrological conditions through nitrogen fixation (as in Spanish broom, or may drain the water table (as in giant reed). Noxious weeds can create such an unfavorable environment for wildlife that associate, mutualistic species necessary for native plant life cycles, such as seed dispersers, fossorial mammals, or pollinators, are lost from the area.

Indirect impacts attributed to the colonization of noxious weeds could include a gradual decrease in natural biodiversity as noxious weed infestations may extirpate native plant populations. The lingering effects of herbicide use to remedy noxious weed infestations could adversely impact native plants and wildlife and are discussed in further detail below (Table 3.4-20). Ongoing operational and maintenance impacts could include the facilitation of noxious weed establishment and spread as a result of increased vehicular and human traffic.

Currently SCE does not have a specific APM intended to reduce the spread or establishment of noxious weeds in the proposed Project area. Measures proposed by SCE that would reduce this impact include APM BIO-2, APM BIO-4, APM BIO-5, and APM BIO-6. These APMs include minimizing vegetation removal at construction sites, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to vegetation. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not clearly address impacts from the spread or establishment of noxious weeds, and do not provide defined mitigation ratios for vegetation loss. Therefore to further reduce impacts of the proposed Project from the spread or establishment of noxious weeds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-2 (Implement RCA Treatment Plan), and Mitigation Measures B-3a through B-3c (Prepare and implement a Weed Control Plan, Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) to minimize the potential spread of noxious weeds as required by FS Manual 2080.

The rationale for the success of the proposed mitigation strategy for impacts associated with noxious weeds contains a three-part approach. First, SCE shall implement restoration of all areas subject to Project disturbance as defined in Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities). Second, SCE shall implement Mitigation Measure B-3a (Prepare and implement a Weed Control Plan) which requires SCE to adhere to the FS management guidelines for reducing the potential for the introduction of invasive, non-native plant species in the ANF by

implementation of the FS Best Management Practices (BMPs) to reduce the potential spread of noxious weed propagules into remote, natural areas, or from roadsides into habitat interiors. The restoration of disturbed areas and general weed management practices such as vehicle cleaning would reduce the spread of noxious weeds on non-NFS lands. The final mitigation components identified in B-3b and B-3c (Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) are intended to monitor and control the spread of noxious weeds, as it cannot be assumed that any suite of BMPs will be 100 percent effective in preventing all invasive propagule spread or release of existing noxious weed seed banks from dormancy. This will be required on NFS lands as identified in the Forest Service Guidelines for Noxious Weeds.

Mitigation Measures for Impact B-3

B-1a Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)

B-2 Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)

B-3a Prepare and implement a Weed Control Plan. SCE shall prepare and implement a comprehensive, adaptive Weed Control Plan on NFS lands for pre-construction and construction invasive weed abatement. The long term Weed Control Plan, including monitoring and eradication, will be defined as part of the 50 year Operations and Maintenance Permit. On the ROW easement lands administered by the FS, the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the FS for final authorization of weed control methods, practices, and timing prior to implementation of the Weed Control Plan on public lands. ROW easements located on private lands shall include adaptive provisions for the implementation of the Weed Control Plan. The Weed Control Plan shall include the following:

- A pre-construction weed inventory shall be conducted by surveying all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new or improved access and spur roads. Weed populations that: (1) are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006); and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusa head); and (3) are considered by the FS as species of priority (for NFS lands only) shall be mapped and described according to density and area covered. In areas subject to ground disturbance, weed infestations shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the FS. The Weed Control Plan shall be updated and utilized for eradication and monitoring post construction.
- Weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods applied with the authorization of the FS, and Fish and Wildlife Service where appropriate. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the CPUC/FS, and implemented by a Licensed Qualified Applicator. Herbicides shall not be applied in areas containing occupied Threatened, Endangered, Proposed, Candidate, and FS Sensitive/Watch List (TEPCSW) species without further analysis. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Herbicides shall not be used within Riparian Conservation Areas (RCAs) on the ANF without approval of the FS and if necessary, the FWS. In riparian areas only water-

safe herbicides shall be used. Herbicides shall not be applied when wind velocities exceed 6 mph. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the FS. The timing of the weed control treatment shall be determined for each plant species in consultation with the FS (on NFS lands), PCA, the county Agriculture Commissioners, and Cal-IPC with the goal of controlling populations before they start producing seeds.

For the preconstruction and construction of the Project, measures to control the introduction and spread of noxious weeds in the Project work area shall be taken as follows.

- On the ANF, from the time construction begins until ten years after construction is complete, surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required at all sites impacted by construction (tower pads, staging areas, landing zones, etc.), including access/spur roads disturbed during the Project. Surveying and monitoring for weed infestations shall occur annually for years one to five and bi-annually for years six to ten. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or resprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.
- During Project preconstruction and construction, all seeds and straw materials shall be weed-free rice straw, and all gravel and fill material shall be certified weed free by the county Agriculture Commissioners' Offices. Any deviation from this will be approved by a FS botanist. All plant materials used during restoration shall be native, certified weed-free, and approved by the CPUC and FS.
- During Project preconstruction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, helicopter landing gear, and bumpers) before and after entering FS identified areas. On non-federal lands vehicles and equipment shall be washed prior to commencing work in off road areas. Vehicles shall be cleaned at existing construction yards or legally operating car washes. SCE shall document that all vehicles have been washed prior to commencing project work. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all Project work areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill, unless otherwise approved by the FS. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the CPUC and FS for inspection at any time and shall be submitted to the CPUC and FS on a monthly basis.
- During Project operation and maintenance activities, clear and dispose of weeds in assembly yards, helicopter landing areas, tower pads, spur roads, staging areas, and any other disturbance areas in a FS-approved method.

B-3b Remove weed seed sources from construction access routes. Prior to construction, SCE shall initiate invasive species eradication identified in the following Table. These populations were identified as small and isolated but having the potential to spread aggressively during construction. Post construction, these isolated populations will be included and treated according to the restoration plan. Per the FSM 2080 BMP guideline, SCE shall also remove or reduce sources of weed seed along the travel routes identified in Figures A-2 through A-4 of Appendix A of the *Biological Specialist Report* (Aspen, 2008) by mowing or other control methods to substantially reduce seed production in these infestations during Project construction. Following Project approval and during the time of year when weed species can be observed and

identified, SCE shall identify, using a qualified plant ecologist, any other weed seed sources that could contribute to Project-related weed spread on the ANF. The following weed populations, and any other target infestations identified by Project surveys, should be controlled prior to construction. SCE shall initiate eradication of the following weed populations and any other isolated, target infestations discovered during pre-construction surveys along construction routes.

Weed Populations Along Construction Routes*	
ANF Road Location	Noxious Weeds Identified
4N41	Isolated patch of Spanish broom
3N20	Isolated patches of Spanish broom
3N23	Giant reed population in creek adjacent to road
2N23	Scattered Spanish broom infestations of a range of population sizes and densities. Some of the large populations along these routes observed during project surveys had been recently brushed for weed control by SCE contractors, but these populations should be rechecked and control efforts reapplied as necessary
2N24	Scattered, isolated patches of Spanish broom
2N25.2	Scattered, isolated patches of Spanish broom
3N27 north of Big Tujunga Creek to Mt. Gleason Rd	Scattered, isolated patches of Spanish broom
2N45	Moderate patch of giant reed and tree of heaven
2N65.1	Moderate infestation of tree spurge
2N65.2	Moderate infestation of Spanish broom and thoroughwort
2N66	Moderate patch of Spanish broom and tree of heaven
2N75	Moderate patch of Spanish broom
2N79	Isolated patch of Spanish broom
1N36	Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, and tree tobacco infestations of a range of population sizes and densities.
*Specific locations are found in Figures A-2 through A-4 of Appendix A of the Biological Specialist Report Noxious Weed Assessment. [Aspen, 2008]	

B-3c Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads. Prior to construction and during each year of use at all assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads within the ANF, weed infested areas should be mowed and/or treated as appropriate for the individual weed species under the guidance of a qualified plant ecologist or restoration ecologist, where concurrence on the ecologist has been provided by the FS. Unless otherwise authorized by the FS, weed control efforts in these areas shall be timed annually to reduce shortpod mustard, tocalote, and other noxious weed seed production, by mowing or weed-whacking infestations when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at a FS/CPUC-approved location. Weed control efforts shall commence in early spring (February – March), as indicated annually by a qualified plant ecologist or restoration ecologist in coordination with a FS botanist or Forest Weed Specialist.

Use of Herbicides to Control Exotic Weeds for Mitigation Measure B-3a

As described under Impact B-3 (The Project would result in the establishment and spread of noxious weeds) several invasive plant species have been detected along the Project ROW. As part of a comprehensive Weed Control Program, several options may be utilized to limit or reduce impacts from invasive plants. To date several methods exist and are regularly prescribed for the eradication of existing weed populations depending on their location and the habitat type they infest. Some of these include

herbicide application, mechanical removal, biocontrol methods, prescribed burns or floods, and shading. The removal of established noxious weed populations is best accomplished by species-specific methodologies, which may include a combination of the above removal procedures or precise timing of specific actions. Due to typically large seed banks and the ability of some weed species to vigorously resprout following removal methods, most species require more than one round of treatment, or require a differing follow-up treatment method after the initial removal occurs. A suite of known species-specific control methods is presented in detail in Appendix A of the *Biological Specialist Report* (Aspen, 2008) (Noxious Weed Report).

Herbicides are any chemical agents, taken from a broader spectrum of pesticides, which target the specific control or removal of plants. Many weed control programs rely heavily or solely on herbicidal methods, as these are often assumed to present the most efficient and cost-effective opportunities for eradication, especially of large populations. However, herbicides may harm or kill desirable native vegetation occurring in close proximity to or even downstream from the targeted weeds. Additionally, herbicides may be detrimental to wildlife species such as amphibians (Relyea, 2005) or negatively impact water quality. For these reasons, noxious weed control measures prescribed as mitigation for Project impacts should be species specific, and herbicides should be applied only if necessary after considering alternate methods or as part of a proven eradication strategy for that weed species. Many weed species require specific timing or methods of herbicidal application (i.e., disturbing a protective waxy cuticle to allow uptake, applying herbicide after the plant has bolted but before seed set, etc.), and if such methods are not followed, it is likely native vegetation will be harmed by herbicidal contamination while the target weed species are left unaffected. Perhaps most importantly, only herbicides specifically approved for use in wetland environments should be used in any area where overspray could potentially be washed into watersheds, and herbicides should be applied by a licensed herbicide applicator who has been clearly informed of the nature of surrounding native vegetation.

Because the terrain in several locations throughout the proposed alignment is steep and difficult to access, and several of the weed species present in the ROW and access roads are typically controlled through the use of herbicides, SCE may opt to use herbicides as one component of the Weed Control Program.

While the overall benefits of herbicide use are generally straightforward, herbicide use may have detrimental effects on ecosystem values and functions. As noted in the CNPS Policy on the use of herbicides in situations where native vegetation may be affected, the tradeoff between the benefits and costs of using herbicide – either proven or alleged – has made it difficult for the public at large, CNPS members, other organizations, and public agencies to evaluate whether or not to use herbicides (CNPS, 2008). It is generally desirable to select an herbicide that has low toxicity, will not move from its target or leach into groundwater (low water solubility), and will not remain in the environment for a long period of time (low persistence). Furthermore, the application method selected depends on the type of control needed, the type of vegetation, and the site situation (site conditions and locations). Not all herbicides or application methods are equally appropriate, effective, or safe, given different site conditions and weed species.

There are several exposure scenarios possible for herbicides and wildlife. These include direct spray; indirect contact through grooming or contact with affected vegetation; and, ingestion of contaminated media, including vegetation, prey species, and water. Because of the relationship of body weight to surface area and to the consumption of food and water, small animals will generally receive a higher dose, in terms of body weight, than large animals will receive for a given type of exposure (Durkin, 2007). For non-target terrestrial plants, the primary hazard is unintended direct spray or spray drift.

Offsite drift typically depends on the droplet size and meteorological conditions. Other offsite exposure scenarios for vegetation include percolation, runoff, sediment transport, and wind erosion.

Table 3.4-17 contains a list of herbicides, including their potential risks to native vegetation and wildlife, which are proposed for use within the Project area on Forest Service lands. It is important to note that there is an extensive variability related to different types of exposure scenarios and dosages for each herbicide. Furthermore, the effects of certain herbicides can vary exclusively at the species level. Therefore, the information presented in Table 3.4-16 is intended as a general overview of the possible effects of herbicide use. The application of an herbicide should always be conducted by a licensed herbicide applicator. Full analyses on the effects of these seven listed herbicides on human and ecological health can be found in the Forest Service Risk Assessment Final Reports (<http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>).

As the proposed Project traverses a wide variety of vegetation communities and supports several different species of noxious weeds, a variety of herbicides may be selected. For example, at locations where aquatic species occur, an herbicide that does not contain added surfactants would be recommended. Surfactants are materials added to enhance the ability of the herbicide to adhere to the treated surface and have been shown to adversely affect aquatic life, including fish and amphibians.

Herbicide	Effects on Vegetation	Effects on Wildlife
Chlorsulfuron	<ul style="list-style-type: none"> Rate and extent of uptake following foliar application varies by species Inhibits an enzyme that is essential for plant growth 	<ul style="list-style-type: none"> Causes weight loss and decreased body weight gain in experimental mammals Appears to have low toxicity in mammals, birds, fish, and invertebrates
Clopyralid	<ul style="list-style-type: none"> Highly selective toxicity to terrestrial plants (primarily broadleaf species) Relatively non-toxic to aquatic plants and grasses Regulates plant growth by acting as a synthetic auxin, thus altering plant's metabolism and growth characteristics 	<ul style="list-style-type: none"> Appears to be relatively non-toxic to terrestrial or aquatic wildlife May adversely affect liver and kidney weights and gastric epithelial tissue Appears to show no effect on viability of bird eggs and chick immune systems
Dicamba	<ul style="list-style-type: none"> Mimics plant hormone indole-3 acetic acid Mechanism appears to involve a stimulation of ethylene production leading to accumulation of abscisic acid and/or cyanide resulting in abnormal growth 	<ul style="list-style-type: none"> Displays an apparent pattern of interspecies scaling, with smaller animals being less sensitive than larger animals Relatively non-toxic to mammals, fish, and amphibians Acute toxicity to birds appears to be generally low May reduce growth and stunt eye development in pre- and post-hatch birds
Glyphosate	<ul style="list-style-type: none"> Inhibits shikimic acid pathway, effectively blocking synthesis of certain phenolic compounds and aromatic amino acids Inhibits photosynthesis, respiration, and nucleic acid synthesis 	<ul style="list-style-type: none"> May reduce food conversion efficiency leading to loss of body weight in mammals and birds Certain surfactants used with glyphosate are much more toxic to fish than others May cause histological changes in gills, kidneys, and liver of some fish
Imazapyr	<ul style="list-style-type: none"> Inhibits an enzyme that is essential for plant growth Practically non-toxic to conifers 	<ul style="list-style-type: none"> Appears to be relatively non-toxic to terrestrial and aquatic animals
Picloram	<ul style="list-style-type: none"> More toxic to broadleaf plants than grasses Mimics naturally occurring auxins leading to uncontrollable and abnormal growth 	<ul style="list-style-type: none"> Appears relatively non-toxic to terrestrial animals Moderately toxic to aquatic animals, particularly some fish May affect fry survival and growth in some fish
Triclopyr	<ul style="list-style-type: none"> Mimics indole auxin plant growth hormones causing uncontrollable growth At sufficiently high levels of exposure, abnormal growth is so severe that vital functions cannot be maintained and plants die 	<ul style="list-style-type: none"> May cause developmental effects at levels that cause maternal toxicity in mammals May have adverse affect on mammalian kidney functions Higher concentrations may cause mortality or immobility in frog tadpoles Larger doses may cause a decrease in body length and smaller doses may lead to lethargic behavior in some fish Relatively non-toxic to birds

Source: <http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>

The use of herbicides in the Project area would comply with regulations set forth by the U.S. Environmental Protection Agency (EPA) and California Department of Pesticide Regulation (CDPR). Additionally, any herbicide use on NFS lands would be subjected to the review and approval of the appropriate FS personnel. Although overspray may adversely affect some non-target species, the removal of noxious or invasive weeds and the control of existing populations would be considered a beneficial effect. To reduce the effects of herbicides, if used, SCE would implement Mitigation Measure B-3a (Prepare and implement a weed control plan).

Noise Effects of Mitigation Measures B-3a, B-3b, and B-3c

Mitigation Measures B-3a, B-3b, and B-3c are recommended to minimize the spread of noxious weeds, however the use of mechanical weed control treatments in areas near sensitive receptors may result in additional noise impacts. (Please see Noise Section 3.10 for a description of sensitive receptors. The use of the term in this context does not constitute biological resources). Mitigation Measures B-3a through B-3c would contribute to increased construction noise from operation of motorized equipment such as brush cutters or mowers, which may impact noise sensitive receptors in the Project area. Section 3.10 (Noise) includes an analysis of the use of motorized equipment to clear vegetation from Project work areas. As described in Table 3.10-10 (Noise Policy Compliance Table – Construction), although construction noise would be temporary and would be reduced by implementation of APMs NOI-1, NOI-3, and NOI-4, and Mitigation Measures N-1a (Implement Best Management Practices for construction noise) and N-1b (Avoid sensitive receptors during mobile construction equipment use), the level of construction noise would violate several local noise ordinances and standards.

CEQA Significance Conclusion

The spread of existing invasive populations or the establishment of new noxious weed populations in previously native areas as a result of Project activities are considered permanent in nature due to the substantial degradation of native habitats within and surrounding the impact areas; and as such, are considered a significant impact without mitigation. Due to the intense effects of noxious weed establishment and spread within California, and the difficulty in controlling existing infestations or restoring arid habitats, Project-related activities that result in the increase in noxious weed populations would have long-lasting consequences for habitats in the proposed Project area and would constitute a significant impact. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-2 (Implement RCA Treatment Plan), and Mitigation Measures B-3a through B-3c (Prepare and implement a Weed Control Plan, Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) will reduce impacts to less-than-significant levels (Class II).

Wildlife

The removal of vegetation from the proposed Project can result in direct effects to wildlife from the temporary and permanent loss of habitat. In addition, construction activities would result in the displacement and/or potential mortality of resident wildlife species that are poor dispersers such as snakes, lizards, and small mammals. Construction may also result in the temporary degradation of the value of habitat in and adjacent to the proposed Project area. Noise, dust, and visual disturbances from increased human activity, helicopter operation, and exhaust fumes from heavy equipment used during construction would temporarily result in reduced habitat quality for wildlife adjacent to the construction zone. This

section discusses impacts to wildlife in general, particularly non-special-status species. Impacts to special-status species are described under Criteria BIO2 and BIO3.

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Direct impacts to wildlife associated with construction of the proposed Project would include mortality from trampling or crushing; increased noise levels due to heavy equipment and helicopter use; light impacts from construction during low-light periods; increased vehicular and human presence along existing access roads and riparian areas; displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions; fugitive dust; and, increased erosion and sediment transport. Indirect effects to wildlife as a result of the proposed Project include the introduction of non-native, invasive plant species, alterations to existing hydrological conditions, and exposure to contaminants.

Direct mortality of small mammals; amphibians and reptiles; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds are discussed under Impact B-5); and other less mobile species would likely occur during construction of the proposed Project. This action would result primarily during habitat clearing, earth removal, grading, digging, and equipment movement. Birds, specifically eggs and nestlings, could be directly impacted by use of helicopters in construction due to startling and increased wind velocity near the nest. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Noise from clearing, grading, and helicopter use would generate the greatest construction impacts on wildlife, especially in undisturbed portions of the ANF. Construction would affect wildlife in adjacent habitats by interfering with breeding or foraging activities and movement patterns, causing animals to temporarily avoid areas adjacent to the construction zone. Nocturnal (i.e., active at night) wildlife would be affected less by construction than diurnal (i.e., active during the day) species since construction would occur primarily during daylight hours. However, construction may also occur during dusk, dawn, or nighttime, and if this occurs, impacts to nocturnal species would be similar to impacts described for diurnal species. More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during the land clearing and grading phases associated with tower construction and road construction and widening. Depending on the timing and location of Project activities, construction may also result in temporary disruption along terrestrial and riparian wildlife movement corridors crossed by the Project (see Criterion BIO5 for a full discussion of wildlife movement corridors).

Vehicle and equipment travel on existing access roads may also disturb wildlife. Access to the tower locations varies greatly depending on the Project segment. Most of the Northern and Southern segments have clearly defined access roads that run adjacent to the existing tower locations. In many instances vehicle access would be accomplished by traveling on roads within the existing transmission line corridor. In addition, the relatively flat or gently sloping topography in these segments facilitate access, staging, and construction near each tower footing. In these areas vehicle disturbance would be limited to a narrow swath of habitat immediately adjacent to the existing structures. Vehicles could cause direct mortality or injury to wildlife that are unable to move out of the way of vehicle traffic.

On the ANF the topography consists of sharply rising slopes, deep canyons, and mountainous terrain. Vehicle access to many of the towers is restricted by the terrain and may not be possible in some locations. These areas would likely require the use of helicopter construction techniques. Similarly, the terrain limits the use of access roads that run adjacent to the existing transmission line corridor. However,

existing forest roads would be used to access many of the towers; and it is likely that these roads were utilized during the construction of the original transmission line. These roads also support fire personnel, forest staff, and to a limited extent, permitted recreationists. Some of the roads are gated and typically consist of graded dirt tracks approximately 12 feet in width. Depending on the location of the roads these paths cross numerous small drainages, creeks, dense woodlands, chaparral communities, and scree-covered slopes. While some of these roads occur in close proximity to the existing line, vehicle and equipment travel would occur in habitat areas that are important to many species of wildlife. For example, the perennial flow and thick riparian canopy at the West Fork of the San Gabriel River support habitat for several special-status species. Populations of Santa Ana sucker, speckled dace, and arroyo chub are known to occur in the West Fork of the San Gabriel River. Southwestern pond turtle, coast range newt, two-striped garter snakes, and many raptors and song birds also occur here. While the river would not be directly affected by Project construction activities, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir (West Fork Cogswell Road). This road is located immediately adjacent to the river for seven miles and is consistently within the riparian canopy. Numerous small ephemeral and intermittent drainages are also present in the canyon and provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the access road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to Santa Ana suckers and other special status species if present. In addition, the many small drainages and creeks that are crossed provide important riparian habitat and water sources for wildlife. On the ANF, many of these areas qualify as RCAs and some may require specific management authorization prior to any action. The number of various types of road crossings within RCAs on the ANF for the Proposed Project are identified in Table 3.4-19. A map of the RCA crossing points on the ANF is included as Figure 3.4-6, located in the Map & Figures Series Volume.

The structure of the vegetation communities associated with riparian habitats provides cover and nesting habitat for songbirds and smaller birds of prey. These areas also serve important functions for wildlife movement and dispersal. The linear configuration of riparian areas creates corridors for local animal movement including travel to and from different habitat types. While riparian habitat occurs as linear strips through various vegetation types, the adjacent upland habitat is often different. The edges where riparian habitat meets with upland habitat are known as ecotones, or transitional habitats. Numerous studies have shown that transitional habitats are critical for many animal species. The variety in vegetative structure and species composition associated with riparian areas is critical for breeding birds, small mammals, reptiles, and amphibian species which have a terrestrial stage in their life history. Vehicle traffic would disrupt wildlife usage in these areas.

Human disturbance near riparian areas could also limit access to critical water features in select portions of the ANF. Terrestrial wildlife species rely upon these areas for year-round water supply, particularly during the hot and dry summer season. Aquatic habitats in the ANF may also include ephemeral pools or seeps. Such ephemeral pools provide critical breeding habitat for amphibians such as salamanders, frogs, and toads. These ephemeral sources of water generally remain only a few months and only occur during years when sufficient precipitation occurs. Such water sources allow wildlife to disperse during the breeding season without making it necessary to travel long distances to water.

Access and Spur Roads

Many of the existing access roads, spur roads, and road crossings, particularly on NFS lands, do not currently meet the 16 foot minimum width that SCE has indicated would be required for the passage of

heavy equipment during construction of the proposed Project. On the ANF, conditions along access roads can change within very small timeframes due to loose soils, landslides, washouts, and fallen trees. As a result of current access road conditions and the ability for these conditions to rapidly change, the majority of these roads would require upgrades, including, but not limited to, cutting and filling, clearing, grading, and soil compaction. Many of these activities would continue to be performed as part of ongoing maintenance during construction of the proposed Project to keep the roads passable to construction equipment and vehicles. Vegetation communities and wildlife habitats also vary dramatically along the access roads in the Project area. These range from agricultural and arid desert scrub communities at lower elevations in the Northern Region to riparian woodlands, oak woodlands, and various scrub communities on the ANF within the Central Region. Dense stands of Douglas fir and other coniferous forests also occur at higher elevations within the Central portion of the proposed Project area. Additionally, scree-covered hillsides, exposed bedrock, disturbed road edges, and semi-disturbed fields of annual wildflowers are interspersed between large continuous blocks of high-quality habitat. In order to facilitate construction of the proposed Project, soil, rock, and vegetation would be removed to accommodate the passage of heavy equipment. In many areas, this would include the direct removal of riparian plant species and/or mature oak, pine, and fir trees. As discussed under Impacts B-2 and B-4 above, numerous existing access roads either directly cross or parallel RCAs on the ANF. Widening of access roads in some RCAs would require the removal of riparian vegetation and the potential diversion of water flow. Natural seeps and springs also occur along portions of several of these access roads. Many of these features are capable of supporting amphibian species, including arroyo toad and coast range newt. In some areas, such as Mount Gleason, and Mount Wilson, access roads bisect dense stands of oak trees and various conifers. These areas provide important nesting habitat for a suite of bird species, including California spotted owl. In addition, once disturbance has occurred, it may be extremely difficult to control illegal Off Highway Vehicles (OHV).

The ecological effects of roads have been widely studied (Trombulak and Frissell, 2000; Findlay and Bourdages, 2000; Jones et al., 2000; Parendes and Jones, 2001; Haskell, 2000; and Vistnes and Nellemann, 2001). Seven general effects of roads have been identified: mortality from road construction, mortality from vehicle collisions, modification of animal behavior, changes to the physical environment, changes to the chemical environment, spread of invasive species, and increased human access and use (Trombulak and Frissell, 2000).

Road construction results in the injury and mortality of slow-moving and sedentary organisms that are in the path of the road and along its edges. In addition, road construction alters the physical characteristics of the soil underneath the road. For example, road construction increases compaction up to 200 times relative to undisturbed sites (Riley, 1984). Organisms that are not killed directly by the construction of the road can be effectively displaced by the altered soil conditions (Haskell, 2000). Road construction also results in sedimentation to water bodies at road crossings, which is detrimental to aquatic organisms (Trombulak and Frissell, 2000).

Construction traffic along access and spur roads, particularly in areas used by nesting birds or near water sources, can adversely affect wildlife by disrupting breeding, foraging, and movement. Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances would result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during the breeding season. Helicopter noise would also have the potential to disrupt wildlife, alter behavior, and may result in nest or territory abandonment for short periods of time.

The use of access roads by construction/maintenance vehicles would result in accidental road-killed wildlife if these species occurred on roads during construction activities. Diurnal reptiles and small mammals such as western fence lizards, desert cottontails, and California ground squirrels are the most likely to be subject to vehicle-caused mortality, although few if any wildlife species are immune to vehicle collisions. These types of effects are most likely to occur in the more remote portions of the Project area. Vehicle collisions with mule deer and other forest species may also occur, particularly on NFS roads. Where vehicles cross riparian areas, road kill could also include aquatic reptiles and amphibians. Because access roads will be used heavily, albeit for relatively short durations of time during the construction phase, there exists a high likelihood for mortality of wildlife due to vehicle collisions. This type of mortality can have devastating effects on local populations (Trombulak and Frissell, 2000).

Amphibians are particularly vulnerable to road kill because they disperse across uplands between water sources, are small and inconspicuous, and are usually slow-moving. One study in Ontario found an inverse relationship between local abundance of frogs and toads and traffic on nearby roads. However, the incidence of road killed amphibians is increased on heavily traveled roads adjacent to suitable habitat. Thus, where roads are frequently traveled, frog and toad population sizes are suppressed but road kill rates are high, further decreasing population sizes (Fahrig et al., 1995).

Animal behavior is altered by the presence of roads in five ways: home range shifts, altered movement patterns, altered reproductive success, altered escape response, and physiological stress (Trombulak and Frissell, 2000). For example, mule deer in Colorado prefer areas more than 200 meters from roads and mountain lion home ranges are located in areas with low densities of dirt roads (Trombulak and Frissell, 2000). However, turkey vultures and black vultures select home ranges with higher road densities, presumably for the increased carrion due to road kills (Trombulak and Frissell, 2000). In the Angeles National Forest major paved roadways are likely the most important factor in the alteration of wildlife behavior as many of the remotely located dirt roads clearly show strong evidence of wildlife use. This is likely due to the nearly impenetrable stands of chaparral that occur in some areas.

The physical conditions on and adjacent to roads differ from other undisturbed areas. Edge effects occur that last well past the time of construction. Soil compaction alters the microhabitats available for plants and soil fauna. Roads in forested areas increase the amount of light that reaches the forest floor, which can open up habitat for early-successional, disturbance-loving species such as many weeds (Parendes and Jones, 2000).

Dust from vehicle access would also affect species in adjacent habitat. The Angeles National Forest strategy AIR 1 is directed to “Control and reduce fugitive dust to protect human health, improve safety and moderate or eliminate environmental impacts.” To this effect the Project would reduce dust emissions on habitat by the use of non-hazardous soil binders and limited vehicle speeds on dirt roadways. Dust can inhibit photosynthesis, smother small organisms, and reduce the quality of the habitat if excessive. Heavy dust generated during the use of dirt roads can also contribute to sedimentation in nearby bodies of water, while road crossings act as barriers to movement for fish and other aquatic wildlife and result in increased turbidity downstream of the crossing.

Roads change the hydrology of slopes and stream channels, which results in changes that are often detrimental to plant communities and wildlife. Roads can intercept shallow groundwater, rerouting surface drainage patterns. This is apparent in places such as along Monte Cristo Creek, where shallow groundwater results in one area where surface water flows along the edge of the existing access road. These kinds of changes to hydrology can result in slope failures and sedimentation through channel

downcutting, new gully or channel head initiation, or slumping and debris flows (Trombulak and Frissell, 2000; Jones et al., 2000). SCE would be required to lay steel plates across such areas to limit the amount of sedimentation and turbidity generated by driving through wet areas of the road.

Pollution, including the deposition of heavy metals, organic compounds, and nutrients, also occurs along roads. Contamination of plant tissue has been recorded as far as 200 meters from roads, and contamination is exponentially higher in plants adjacent to road edges (Trombulak and Frissell, 2000). Roads also contribute pollution and nutrients to nearby aquatic ecosystems at a high rate because the normal buffering effect of riparian vegetation is removed along roads that run adjacent to or cross water bodies. Organisms may be killed or displaced due to the presence of contaminants from roads, and native plant growth and survival is negatively impacted by contaminants (Trombulak and Frissell, 2000).

Roads facilitate the spread of invasive species by opening up bare areas of soil that are readily colonized by disturbance-loving exotics. Further, the use of roads increases the deposition of nutrients such as nitrogen that are favored by exotic species. As discussed above, roads also increase the availability of light and water (as runoff) along road edges, and dust and contamination can stress or kill native vegetation adjacent to the road. Finally, roads increase access by human and animal weed propagule vectors. All of these conditions lead to increased recruitment of noxious weeds along road edges (Trombulak and Frissell, 2000).

The presence of roads increases the ability for humans to access remote areas. Increased human access can result in disturbance to wildlife, litter, road kills, and other detrimental effects. While SCE would gate access and spur roads on NFS lands to discourage unauthorized use (Mitigation Measure B-1a, Provide restoration/compensation for impacts to native vegetation communities), some use may occur. This is especially important in areas where new spur roads would be created. Additionally, some access roads in the Northern and Southern Regions would not be gated and would thus result in increased use by the public.

Local populations of wildlife that occur along the proposed Project ROW are expected to temporarily decline in abundance or disperse during the construction phase of the Project, but common species are expected to return to their pre-construction levels following the restoration of the helicopter landing areas, pulling/splicing sites, concrete batch plant sites, staging areas, and tower erection sites. Also, as construction is limited to relatively small areas, opportunistic wildlife species would likely return to the proposed ROW areas as work crews move to new tower locations.

A large part of the proposed Project route would be constructed along the existing SCE designated utility corridor. Most of the wildlife expected to be impacted by construction in these easements are composed of common, wide-ranging species. Due to the narrow area of disturbance along this Project and the short duration of disturbance, many common wildlife species occurring along the transmission line route are expected to quickly re-colonize the area after construction activities have been completed. However, re-colonization rates will depend on the rate of revegetation at each disturbed site, with slower wildlife re-colonization in vegetation communities that are difficult to restore and slow to recover from disturbance. The use of access roads would also result in the temporary decline of species in the immediate vicinity of the roads, however the effects of traffic are typically short term and vehicle speeds would be limited.

Project-related effects on common species would be minimized through the implementation of mitigation measures designed to educate workers of the presence and sensitivity of wildlife that may occur in the Project area; limitations on the work that may occur in RCAs, reducing the effect of fugitive dust on adjacent areas through dust control and reduced vehicle speeds; the restoration of habitat at the conclusion

of construction; and the control of noxious weeds. The implementation of erosion control measures would also reduce the potential off-site transport of sediment to both aquatic and upland habitats. These measures include APM BIO-1 which requires SCE to conduct pre-construction clearance surveys for wildlife and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Dust Control). The implementation of these measures would reduce fugitive dust, re-establish native vegetation communities following disturbance, educate workers about wildlife, and prevent the spread or colonization of noxious weeds which can severely degrade habitat for common wildlife.

Mitigation Measures for Impact B-4

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Construction-related effects to common wildlife are typically not considered significant under the CEQA. However, the large scale of the construction and multiyear schedule would result in potential significant effects to species on the ANF. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan.), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to a less than significant level (Class II). Construction impacts to listed and candidate wildlife species are discussed separately under Rare, Threatened, or Endangered Wildlife (Criterion BIO2) below.

Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors.

The proposed Project area consists of several vegetation communities that are known to support nesting for many bird species. These vary from Joshua tree woodlands and desert habitats in the Northern Region to oak woodlands, chaparral, riparian scrubs and forests, and montane forests in the Central Region and riparian scrubs, coastal sage scrub, and chaparral habitats in the Southern Region.

Direct impacts to nesting birds or raptors as a result of construction activities for the proposed Project could include the removal or disturbance of vegetation that supports nesting birds, increased noise levels

from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. Operational impacts include increased human presence from maintenance personnel and collisions with transmission lines (see Impact B-21, below).

Ground-disturbing activities associated with construction of the proposed Project, including tower pad preparation and construction and grading of new spur roads and grading and widening of existing access roads, would result in the direct removal or disturbance to vegetation utilized by nesting birds. These include nesting songbirds and several raptor species, such as red-tailed hawk and white-tailed kite, which are known or expected to nest in the vicinity of the proposed Project. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. The proposed Project may also result in impacts to raptors that utilize the existing towers for nesting or burrowing owls that utilize the edges of the agricultural fields, existing roads, and irrigation canals for wintering or breeding habitat. Breeding birds and other wildlife may temporarily or permanently leave their territories to avoid construction activities, which could lead to reduced reproductive success and increased mortality.

The widening of access roads would result in removal of vegetation that could support nesting birds. Use of access roads by construction equipment and vehicles would disrupt nesting birds and could lead to nest failure or abandonment. The effects of access roads on nesting birds would be similar to that described for general wildlife. See Impact B-4 for a complete description of the effects of the use of roads on wildlife.

Helicopter operations, which would occur in many sections of the ANF, could also adversely impact nesting birds. The use of helicopters for Project construction would increase noise, vibration, dust, and air turbulence, and would cause visual disturbance to nesting birds. These factors could result in the disruption of breeding activity, and subsequent nest failure.

Many species of birds found within the Project area are protected under the Migratory Bird Treaty Act. Nesting birds are also offered protection by the CDFG. To reduce effects of the proposed Project on nesting birds SCE would implement APM BIO-1 and APM BIO-8. These APMs include conducting clearance surveys for wildlife and completing Project-wide raptor surveys. However, as described above these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project on nesting birds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-5

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)

B-5 Conduct pre-construction surveys and monitoring for breeding birds. SCE shall conduct pre-construction surveys for nesting birds if construction and removal activities are scheduled to occur during the breeding season. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access/spur road locations. Surveys for birds shall be conducted for all areas from February 1 to August 15. The required survey dates may be modified based on local conditions (i.e., high altitude locations) with the approval of the CPUC, California Department of Fish and Game (CDFG), USACE, and/or FS. SCE shall be responsible for designating qualified biologists who can conduct pre-construction surveys and monitoring for breeding birds. The resume of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to ground disturbance. If breeding birds with active nests are found, a biological monitor shall establish a 300-foot buffer around the nest for ground-based construction activities and a one-mile buffer for helicopter use, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The 300-foot (one-mile helicopter) buffer may be adjusted to reflect existing conditions including ambient noise, topography, and disturbance with the approval of the U.S. Fish and Wildlife Service (FWS), CPUC, USACE, CDFG, or FS, as appropriate. On NFS lands, the FS shall have the authority to define/redefine such buffers. The biological monitors shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitors shall be responsible for documenting the results of the surveys and the ongoing monitoring and will provide a copy of the monitoring reports for impact areas to the respective agencies (e.g., On NFS lands documentation will be provided to the Forest Biologist). If for any reason a bird nest must be removed during the nesting season, SCE shall provide written documentation providing concurrence from the FWS and CDFG authorizing the nest relocation. On NFS lands, this will include coordination and written approval from the FS. On USACE lands, this will include coordination and written approval by the USACE. SCE shall provide a written report documenting the relocation efforts. The report shall include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and whether the birds were accepted by the adopted parent.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

The proposed Project has the potential to violate the Migratory Bird Treaty Act as a result of habitat removal during the breeding season. As described above the displacement of most birds, including raptors or burrowing owls during the breeding season would be a violation of the Migratory Bird Treaty Act and would be considered significant without mitigation. Implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), and B-5 (Conduct pre-construction surveys and monitoring for breeding birds) would reduce Impact B-5 to less-than-significant levels (Class II).

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Direct impacts as a result of construction activities associated with the proposed Project would include the permanent removal and temporary disturbance of rare and non-rare vegetation communities utilized as foraging habitat for both common and rare wildlife, fugitive dust, and increased noise levels due to heavy

equipment and helicopter operations occurring in these areas. These impacts would primarily occur during tower pad preparation, grading for helicopter staging areas, and construction, grading, and widening of new spur roads or existing access roads. Indirect impacts to foraging habitat could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weed colonies. Operational impacts include increased human presence and the spread of noxious weeds due to public use of new or improved spur and access roads.

Construction activities associated with the proposed Project would result in disturbance to a variety of plant communities. Tables 3.4-17 and 3.4-18 present the temporary and permanent impacts to vegetation communities that would occur from implementation of the proposed Project. In total, the proposed Project would temporarily disturb approximately 231 acres of rare vegetation (1,033 acres of non-rare vegetation) and would permanently impact approximately 54 acres of rare vegetation (228 acres of non-rare vegetation). With the exception of some highly disturbed or developed habitats most of the habitat in the proposed Project area is utilized by both common and rare wildlife for foraging and shelter.

Installation of new tower locations, grading for helicopter staging areas, construction of spur roads, and widening of access roads would result in the permanent removal of native and non-native vegetation communities including desert scrub, chaparral, coastal sage scrub, a variety of forested woodlands (oak woodland, bigcone Douglas fir, etc.), and non-native grassland. Tables 3.4-17 and 3.4-18 contain a summary of the vegetation that would be subject to Project disturbance. The loss of oak woodlands or scrub oak communities that provide important mast crop could adversely affect the species that rely on those resources. Impacts to foraging habitat would be low compared to the range and acreage of habitat in the Project area, and many species, including raptors and mule deer, typically forage over wide areas. However, impacts to foraging habitat for rodents or invertebrates would be high since they do not range over wide areas. Disturbed areas may also provide access to edge habitats or early successional plant communities which are preferred foraging areas for some wildlife species. In addition, transmission line towers are often utilized by raptors, such as the Swainson's hawk, red-tailed hawk, and peregrine falcon, and they may improve the foraging opportunities for these species by providing roosting or nesting sites.

To reduce impacts of the proposed Project on wildlife habitat SCE would implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). The implementation of these measures would facilitate the restoration of native vegetation communities following disturbance, avoid impacts to important riparian areas on NFS lands, minimize the spread or colonization of noxious weeds which can severely degrade habitat for common wildlife, and educate workers to avoid wildlife and their habitat.

Mitigation Measures for Impact B-6

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)

- B-3a Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)
- AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under Air Quality, Section 3.3)
- H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Temporary and permanent loss of native vegetation communities that provide foraging habitat for raptor or other wildlife species would be considered a significant impact without mitigation. As described above the implementation of measures that would facilitate the restoration of native vegetation communities, avoid impacts to important riparian areas on NFS lands, and prevent or minimize the spread or colonization of noxious weeds would reduce impacts of the proposed Project. Therefore SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) to reduce impacts to less-than-significant levels (Class II).

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Threatened and Endangered Plant Species

Seven State or federally listed or proposed plant species have the potential to occur in the proposed Project area. These include the federally listed Braunton's milk-vetch, Nevin's barberry, slender-horned spineflower, and thread-leaved brodiaea; the California State-listed Mt. Gleason Indian paintbrush; and the federal candidate species Brand's phacelia and San Fernando Valley spineflower (also State-listed endangered). Critical habitat has been designated for two of these plant species, thread-leaved brodiaea (USFWS, 2005a) and Braunton's milk-vetch (USFWS, 2006), and critical habitat has been designated for Nevin's barberry (USFWS, 2008). However, the proposed Project is not located in designated or proposed critical habitat for any of these species.

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed plant species. Impacts to these species are detailed below.

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Focused botanical surveys of the proposed Project alignment, helicopter staging areas, stringing and pulling locations, etc. were conducted in the summer and fall of 2007 and spring and summer of 2008. Due to the annual rainfall received during the 2007-2008 rain year the expression of plant species, particularly ephemeral annuals that cannot be detected in some years, was considered good to excellent in many portions of the alignment. All accessible impact locations were visited, including new and existing tower locations, spur roads, new substation locations, line pulling locations, staging areas, and along existing and proposed access roads. However, because final engineering has not been completed by SCE some locations including possible pulling sites, tower locations, or helicopter landing sites have not been

surveyed. Listed plant species were not observed in or adjacent to the proposed Project area or along any of the proposed access roads.

Direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower pad preparation, clearing helicopter staging areas, and the construction, grading, and widening of new spur roads and existing access roads. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. Operational impacts include trampling or crushing due to public use of new or improved spur roads and access roads, increased erosion, and the spread and colonization of noxious weeds.

Braunton's Milk-vetch

Braunton's milk-vetch is endemic to foothill habitats in the Santa Ana, San Gabriel, and Santa Monica Mountains in Ventura, Los Angeles, and Orange counties (CNDDDB, 2007), and is therefore considered to be absent from the Northern Region of the proposed Project. Although the species was not observed during focused floristic surveys of the Project area in 2007 and 2008, the species may occur in areas of suitable carbonate soils in recently burned or disturbed, dry, open chaparral communities (Skinner, 1991) in the Central and Southern Regions of the proposed Project. There are no documented occurrences of Braunton's milk-vetch within the ANF. However, the species is present north of the city of Monrovia in an area to the south of Clamshell Canyon and just south of the ANF boundary (CNDDDB, 2007). This area, which lies in the foothills between Segments 7 and 11 of the proposed Project, has been designated critical habitat for this species (Unit 5: Monrovia Unit, FWS, 2006). Another critical habitat unit is located in Coal Canyon (Unit 6, FWS, 2006), about 4 miles from Alternative 4 and 8 miles from Segment 8.

Braunton's milk-vetch is an ephemeral fire-follower that typically persists for only a few years following a fire, and most populations may exist in the soil as a seed bank awaiting the next fire (Skinner 1991). Therefore, a degree of uncertainty will remain regarding the absence of this species following surveys conducted during the blooming period, as the seed bank would not be detected by conventional survey techniques. Portions of Segment 10 were observed to be somewhat recently burned and supported some carbonate soils; portions of Segments 5 and 11 were more recently burned; however, no populations of Braunton's milk-vetch were found to occur in these areas. If encountered during later clearance surveys, any Braunton's milk-vetch individuals or populations encountered will be marked and avoided. Therefore, no adverse effects to Braunton's milk-vetch are expected to occur as a result of the Proposed Project.

Nevin's Barberrry

The current distributional extent of Nevin's barberry ranges from the foothills of the San Gabriel Mountains of Los Angeles County to the foothills of the Peninsular Ranges of southwestern Riverside County (USFWS, 2008). The species is therefore considered to be absent from the Northern Region of the proposed Project. Although it was not observed during focused floristic surveys of the Project area in 2007 and 2008, Nevin's barberry may occur in the Central and Southern Regions of the proposed Project on coarse soils in chaparral, cismontane woodland, or coastal scrub habitats, or on gravelly wash margins in alluvial scrub. Although potentially suitable chaparral habitat is very common in these regions, occupied habitat is widely scattered, and occurrences often consist of very few individuals. Nevin's barberry has been planted in native habitats in several areas, where it has become naturalized. This has resulted in confusion and uncertainty in determining which occurrences are truly native (USFWS, 2008). The largest known occurrence of Nevin's barberry, which contains approximately 200 plants, is in the

Vail Lake-Oak Mountain area (USFWS, 2008), many miles from the proposed Project. The CNDDDB (2007) lists two extant occurrences of this species within the ANF, in Lopez Canyon and San Francisquito Canyon, over five miles from the proposed Project. However the San Francisquito Canyon population is now believed to have been planted in 1929 following a flood (USFWS, 2008). Threats that have been identified on the ANF include wildfire, fire suppression activities, and illegal trash dumping. Near the southern boundary of the ANF, occurrences in Pasadena and in Big Tujunga wash near the city of San Fernando have been extirpated by development. Overall, the probability that this species occurs within the Project area is low, but because of the proximity of the Project to its historical range, the possibility cannot be ruled out. In addition, this conspicuous plant would likely have been detected during the focused botanical surveys conducted in the spring of 2008. If any individuals or populations are encountered during clearance surveys they will be marked and avoided. Therefore, no adverse effects to Nevin's barberry are expected to occur as a result of Project implementation.

Slender-horned Spineflower

Slender-horned spineflower is known from San Bernardino, Los Angeles, and Riverside counties on sandy beaches and floodplain terraces in alluvial fan scrub vegetation, chaparral, cismontane woodland, and coastal scrub communities (USFWS, 1987). As no suitable habitat is present in the Northern Region of the proposed Project, it is considered absent from this area. In the Central Region, CNDDDB (2007) records four historical occurrences within five miles of the proposed Project. Segment 11 bisects one of these populations in the foothills of the city of Altadena in Rubio Wash, but the population is presumed extirpated due to urbanization and modifications for flood control. Other populations, also possibly extirpated, occur three miles east of Segment 11 in La Crescenta and 3.5 miles west of Segment 11 along the West Fork of the San Gabriel River. A population that is presumed extant occurs along Cogswell Reservoir east of Segment 6 (CNDDDB 2007), however this area would not be subject to Project activities. This species was not identified during focused floristic surveys conducted in April and May 2008. During construction any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to slender-horned spineflower are expected to occur as a result of Project implementation.

Mt. Gleason Indian Paintbrush

Mt. Gleason Indian paintbrush is endemic to the San Gabriel Mountains of Los Angeles County where it occurs in rocky places within lower montane coniferous forest and pinyon and juniper woodland communities at elevations of 2,700 to 7,120 feet (CNPS 2007, Consortium of California Herbaria 2007). The species is therefore considered absent from both the Northern and Southern regions of the proposed Project. Mt. Gleason Indian paintbrush has been documented to occur within the ANF at six general locations: Chilao/Horse Flats, Lightning Ridge, Little Rock Creek, Messenger Flats, Mount Gleason, and North Fork Pacoima Canyon. During surveys of all known populations in 1987, a total of at least 3,700 individuals were observed excluding the North Fork Pacoima Canyon site (Mistretta and Brown 1987, Stephenson and Calcarone 1999). The primary threat to this species on the ANF is its preference for habitat that is also popular for human activities (i.e., gentle slopes and an open understory). Five populations are located within five miles of the proposed Project. The species therefore may occur within the Project area, but was not identified during appropriately timed focused floristic surveys conducted in April and May 2008. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to Mt. Gleason Indian paintbrush are expected to occur as a result of Project implementation.

Brand's Phacelia

Brand's phacelia was historically known from 15 populations in Los Angeles, Riverside, and San Diego counties, and in Baja California where it occurred on sandy substrates in coastal dune and coast scrub communities at elevations below 1,113 feet (CNPS 2007). Currently, the species is known from San Diego, Los Angeles, and Riverside counties (CNPS 2007). Brand's phacelia is considered absent from the Northern and Central regions of the proposed Project, which fall outside of the species known historical distribution. In the Southern Region, there are records of an extirpated occurrence in the San Gabriel River east of El Monte (CNPS 2007, CNDDDB 2007), and the species may therefore occur in scrub communities underlain by sandy soils within the proposed Project along Segments 7 and 8 south of the ANF. The species is unlikely to occur along Segment 11 where habitat conditions are marginal. Appropriately timed focused floristic surveys for Brand's phacelia conducted in April and May 2008 did not detect this species. During construction any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore no adverse effects to Brand's phacelia are expected to occur as a result of the Proposed Project.

San Fernando Valley Spineflower

The federal candidate and State endangered San Fernando Valley spineflower once occurred on sandy soils in coastal scrub communities in Los Angeles, Ventura, and Orange counties. Until its rediscovery in 1999, it had not been seen since 1929 and was considered extinct. It is now known to occur in just two areas: the vicinity of Newhall Ranch and the former Ahmanson Ranch in southeastern Ventura County (CNDDDB, 2007). Although there are records of this species five miles to the east of Segment 5 in the vicinity of Elizabeth Lake, recent surveys of suitable habitat in the area have failed to detect the species, and the population has likely been extirpated (CNDDDB, 2007). It is considered unlikely to occur in the Northern Region of the proposed Project because only marginal habitat is present. There are no known populations of San Fernando Valley spineflower within the ANF (Stephenson and Calcarone, 1999), and the species is unlikely to occur in the Project's Central Region. There are no identified threats to this species on NFS lands. In the Southern Region, the nearest record of San Fernando Valley spineflower is an extirpated population located approximately 11 miles south of Segment 8 (CNDDDB, 2007). The species is therefore unlikely to occur in the Southern Region. In addition, appropriately timed focused floristic surveys conducted in April and May 2008 did not detect this species. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to San Fernando Valley spineflower are expected to occur as a result of the Proposed Project.

Thread-leaved Brodiaea

Thread-leaved brodiaea is known from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo counties. It typically occurs in open mesic grasslands in chaparral, cismontane woodland, or coastal scrub communities and is frequently associated with wet areas or vernal pools. The species is considered absent from the Northern Region of the proposed Project because the region falls outside of the species' distribution, and no suitable habitat is present. In the Central Region, two populations of thread-leaved brodiaea occur just outside of the ANF boundary above the cities of Glendora and San Dimas. This area has been designated as critical habitat for the species (USFWS, 2005a). As part of the focused floristic surveys in 2008, the Glendora population was surveyed in an effort to better understand the microhabitat requirements for the species. Although this critical habitat unit is nearby, thread-leaved brodiaea is considered unlikely to occur in the Central Region due to the lack of suitable mesic grassland habitat and a preponderance of steep, well-drained grassland slopes within the

Project area. Some areas exhibiting relatively level or depressional topography and a suite of associated native grassland species were observed within the Chino Hills Alternative alignments, but these areas were not mesic in character. Although very little suitable mesic grassland habitat occurs in the Southern Region of the proposed Project, the potential occurrence of this species in the area cannot be ruled out. However, appropriately timed focused floristic surveys conducted in April and May 2008 did not detect this species. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to thread-leaved brodiaea are expected to occur as a result of Project implementation.

Direct impacts to listed plant species would primarily be related to ground-disturbing activities, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. These impacts include trampling or crushing from heavy equipment, vehicles, and foot traffic and alterations to the native seed bank due to soil compaction and modifications to existing hydrological conditions.

Although none of these species described above were encountered during reconnaissance-level surveys of the proposed Project conducted in the summer and fall of 2007, these surveys were generally conducted outside of the blooming period for these species, and the rainfall totals for 2007 within the proposed Project area were well below average, resulting in conditions that were unfavorable for the detection of many annual or ephemeral plant species. During the spring and summer of 2008 the Project alignment was resurveyed. The 2008 focused floristic surveys did not detect any State or federally listed plant species within the proposed Project alignment. However, there is some possibility that new populations of listed species could potentially establish in areas where they were not previously observed due to dispersal and/or a change in the existing conditions that could favor some listed species, such as a recent burn. Therefore, should Project construction take place after 2009, further focused clearance surveys of all impact areas will be required to determine potential presence of and distribution of listed plant species within the alignment. In addition, any Project areas not surveyed for the proposed Project would require focused rare plant surveys at the correct time of year (blooming season) prior to disturbance. If any of these species are encountered, all individuals or populations within Project impact areas will be marked and avoided.

Indirect impacts to listed plant species can occur from the accumulation of fugitive dust related to Project construction, the introduction and proliferation of non-native invasive plants, and increased soil compaction, erosion, and sedimentation.

Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Soil compaction, erosion, and sedimentation resulting from Project activities can also indirectly impact these species. Grading for new access or spur roads can alter the surface hydrology in an area and affect plant communities by reducing access to sheet flow during rain events.

Ground-disturbing activities that would occur during the construction of the proposed Project can also result in the proliferation and spread of non-native invasive plants to new areas. Because noxious weeds can permanently degrade rare plant and animal habitats, their proliferation as a result of Project activities could adversely affect listed plant species if they are present. The indirect effects on listed plants due to noxious weeds will be minimized by implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), which will prevent or reduce the potential spread of noxious weeds, control existing weed populations, and restore native habitats as required by FS Manual 2080 and would therefore

further reduce the potential effects on listed plants within the ANF. This measure would also minimize the spread of noxious weeds off of NFS lands.

SCE has indicated that APMs BIO-1 through BIO-7, described in Table 3.4-16, would be implemented as part of the proposed Project to avoid or minimize impacts to biological resources including listed plant species. These APMs include avoiding or compensating for impacts to vegetation communities, training personnel, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes. As proposed, the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate protection for listed plants, the following Mitigation Measures are presented to further reduce impacts of the proposed Project on listed plants: Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants) below.

Mitigation Measures for Impact B-7

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-7** Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants. SCE shall conduct pre-construction surveys for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist according to protocols established by the FWS, CDFG, and California Native Plant Society (CNPS). The resume of the proposed biologists will be provided to the CPUC and FS for concurrence prior to ground disturbance. All listed plant species found shall be marked and avoided. If a federally listed plant species cannot be avoided on private land, consultation with FWS will occur.

Prior to site grading, any populations of listed plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, edaphic physical and chemical characteristics) that are identified by a qualified plant ecologist and/or Forest botanist. At minimum, the buffer shrub species shall be equal to twice the drip

line (i.e., two times the distance from the trunk to the canopy edge) in order to protect and preserve the root systems of the plant. The buffer for herbaceous species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the FWS, CDFG, FS, and CPUC. If impacts to listed plants are determined to be unavoidable, the FWS shall be consulted for authorization, through the context of a Biological Opinion. Additional mitigation measures to protect or restore listed plant species or their habitat may be required by the FWS before impacts are authorized, whichever is appropriate.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Listed plant species were not identified during focused surveys of the proposed Project in the spring and summer of 2008. However, listed plant species described above have the potential to occur within the proposed Project where suitable habitat is present, and ground-disturbing Project activities have the potential to disturb these species. If present, impacts to these species would be considered significant without mitigation (Class II). However, impacts to special-status plant species would be reduced to a less-than-significant level through implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), which will prevent the disturbance of any individuals or populations of these species through Project redesign and avoidance. Take of these federally and/or State-listed species through direct mortality or the loss of occupied habitat would only be authorized in the context of a Biological Opinion issued by the FWS and/or an Incidental Take Authorization from CDFG. As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). Indirect effects caused by erosion would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). A Worker Environmental Awareness Program would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) to educate workers as to the sensitivity and potential for rare plants to occur.

Threatened and Endangered Wildlife

Habitat in the proposed Project area has the potential to support a variety of State and federally listed wildlife species. Twelve State or federally listed species or species proposed for listing were identified with the potential to occur in the proposed Project area. These include:

- California red-legged frog
- Arroyo toad
- Desert tortoise
- Santa Ana sucker
- Unarmored threespine stickleback
- California condor
- Southwestern willow flycatcher
- Least Bell's vireo
- Yellow-billed cuckoo
- Coastal California gnatcatcher
- Swainson's hawk
- Mohave ground squirrel

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed wildlife species. In addition, helicopter construction would generate noise, vibration, dust, and air turbulence. Impacts to these special-status species are detailed below.

Threatened and Endangered Amphibians

Several rare amphibian species have the potential to occur in the vicinity of the proposed Project. This includes portions of the Northern and Central sections of the proposed ROW. In addition, species like the mountain yellow-legged frog and California red-legged frog historically occurred in many of the streams and creeks within NFS lands of the Central region but occur now in isolated populations well away from the proposed Project. However, many of the streams, rivers, and tributary drainages that occur on NFS lands have not been extensively or recently surveyed for many species (Sandburg, 2008). In addition, even periodic surveys may fail to detect small or isolated populations of highly cryptic or weather dependent species. Therefore, the use of the existing literature alone may underestimate the potential for some species to occur and there is the potential for undiscovered or remnant populations of listed wildlife to be present in remote locations adjacent to the proposed Project.

The presence of and potential for amphibians to occur in the proposed Project area is linked to the physical characteristics of the landscape. Amphibians often require a source of standing or flowing water to complete their life cycle. However, some more terrestrial species including arroyo toads are linked to aquatic resources for a very limited time during the breeding season and may spend significant times away from the creek channel. Other species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These xeric-adapted species conserve moisture by emerging only under conditions of high humidity or when the weather is cool and/or wet. Depending on the location of the towers, the Project area provides suitable habitat for amphibians in numerous locations (see Section 3.4.2.3).

Further, the extensive use of access roads that cross ephemeral, intermittent, and perennial drainages including Mill Creek, Monte Cristo Creek, Fall Creek, Big Tujunga, Alder Creek, and the San Gabriel River could result in both disturbance and mortality to wildlife if present. Some wet ford crossings could support listed amphibians at or near the crossing. Amphibians located downstream of a wet ford crossing could be subject to sedimentation and increased turbidity generated by the use of the crossing by multiple construction vehicles. Chemical spills from fuel, transmission fluid, lubricating oil, and motor oil leaks could also contaminate water and result in mortality or reduced reproductive success of aquatic organisms. Clearing and grading or the deposition of spoils from excavation located on steep hillsides or on erosion prone soils may also result in the transportation of sediment loads to adjacent creeks. Impacts associated with the use of wet ford crossings are discussed below under impacts to individual species. The effects of access roads on listed amphibians would be similar to that described for general wildlife. Please see Impact B-4 for a complete description of the effects of the use of roads on wildlife.

Impact B-8: The Project would result in the loss of California red-legged frogs and mountain yellow-legged frogs.

Although not detected in the proposed Project area, direct impacts to the California red-legged frog and mountain yellow-legged frog, if present, could occur from construction activities as a result of mechanical crushing, loss of breeding or basking sites, fugitive dust, and human trampling. Disturbance would be associated with the removal of vegetation and alterations of existing topographical and hydrological

conditions, particularly along drainage crossings and within RCAs. Indirect impacts to these species could include the degradation of water quality, changes in water runoff due to spur road and access road construction or upgrades, increased erosion and sediment transport, and the spread of noxious weeds along riparian areas. Operational impacts include increased risk of mortality on access or spur roads through collision with vehicles and disturbance from increased public access along new or improved access and spur roads.

The California red-legged frog is known to occur in San Francisquito Creek and Amargosa Creek in the Leona Valley and has the potential to occur within the proposed Project at the Amargosa Creek crossing within the Northern Region (Table 3.4-7). California red-legged frogs were not observed at Amargosa Creek on any site visit or focused survey between 13 and 15 June 2006, or on 29 September 2007 when the stream was dry. Reconnaissance surveys conducted by SCE on December 19, 2007 and focused surveys conducted in 2008 also did not detect the species. It is unlikely that reaches of the drainage near the proposed crossing are occupied by red-legged frogs on a permanent basis. However, red-legged frogs may utilize this area as a movement/dispersal corridor at various times, especially during late winter and spring.

While California red-legged frogs are presumed absent from the Southern Region and are unlikely to occur within the Central Region, suitable habitat is present at the following drainages within the Central Region: Lynx Gulch, Alder Creek, Fall Creek, Big Tujunga Creek (Segment 6/11), and the West Fork San Gabriel River (Table 3.4-7). The threats that have been identified on FS lands include predation by non-native fish and amphibians and crushing of frogs and egg masses by human trampling and vehicles.

In addition, with the exception of the drainages associated with the proposed Project, many of the streams, rivers, and tributary drainages that occur on NFS lands have not been extensively or recently surveyed for many species (Sandburg, 2008). The proposed Project occurs approximately nine miles east of the LOS-1 Unit (San Francisquito Creek) and approximately 25 miles east of the VEN-3 Unit (Piru Creek) of the revised proposed critical habitat for this species (USFWS, 2006b), therefore no impacts to critical habitat for this species are expected. Although this species was not identified during reconnaissance surveys of the area, populations of California red-legged frogs have been documented in both up- and downstream sections of Amargosa Creek. Therefore there is a high potential for this species to occur in or adjacent to the proposed Project ROW at that location. Depending on the season and presence of frogs, construction activities occurring within one mile of Amargosa Creek, Lynx Gulch, Alder Creek, Big Tujunga Creek (Segment 6/11), and West Fork San Gabriel River or wet ford vehicular crossings of those drainages, may also have the potential to result in mortality to this species if present.

While this species is typically highly aquatic, California red-legged frogs have been documented to make overland movements of several hundred meters and up to one mile during a winter-spring wet season (Bulger et al., 2003; Fellers and Kleeman, 2007). This is particularly true on nights with high humidity or precipitation. Construction activity associated with vehicle access or tower preparation may result in construction-related mortality to this species if present.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that many wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or perpendicular linear movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor" (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh,

1997). Therefore, adequate setbacks from potential habitat are important to ensure impacts to this and other semi aquatic species are avoided; this is an important component to mitigating impacts of the proposed Project.

The mountain yellow-legged frog is thought to have been extirpated from more than 99 percent of its former range. This closest known record of this species occurs in the upper reaches of Little Rock Creek approximately five miles from the closest section of the ROW. This species also occurs at Bear Gulch, approximately 20 miles to the east. Historically this species occurred in the tributaries to the West Fork of the San Gabriel River. While suitable habitat for this species occurs in many of the drainages and creeks located on NFS lands, it is not expected to occur in the Project area. However, mountain yellow-legged frogs have been recorded making overland movements of up to one kilometer (Pope and Matthews, 2001). The primary threats that have been identified for this species on NFS lands include ongoing activities such as roads and trails use, recreation facilities, and small-scale mining and prospecting operations. While it is likely that road construction would involve the repair or maintenance of stream crossings, this work would not be conducted during periods of high flow and wet ford crossings of streams that could support this species would be surveyed prior to use. As this species is not expected to occur in the Project area, impacts to mountain yellow-legged frog are not expected to occur. However, during the course of surveys and monitoring for California red-legged frog, if mountain yellow-legged frog or other federally listed amphibians are found, work will cease until SCE receives concurrence from the FS, USACE, and FWS, as explained in Mitigation Measures B-8a and B-8b below.

Construction and/or demolition of overhead transmission line towers would require several types of soil disturbance that could result in the degradation of water quality in the many streams and drainages that occur in the Project area. Excavation and/or grading would be required at all tower sites where new pads or footings would be required, at all tower demolition sites, and at all new and/or expanded substations. Additional clearing of vegetation and/or grading would be required for crane pads, pulling stations, staging areas, and access and spur roads. Disturbance of soil during construction could result in soil erosion and lowered water quality through increased turbidity and accelerated sediment deposition into local streams. In particular, road construction for both temporary and permanent roadways has the potential to cause soil instability resulting in erosion and sedimentation, which could potentially degrade surrounding water quality. For aquatic species the degradation of water quality through increased sedimentation can smother egg masses and juveniles or result in decreased water oxygen levels. The water quality impact of road construction and improvement is of particular concern in areas that cross stream channel or traverses steep slopes. For example, many portions of Segment 6 and 11 are located on steep gradients above known water sources. It is highly likely that sediment could be transported to these drainages absent the implementation of erosion control measures.

Sediment transport from upslope areas subject to grading and earth movement would not result in a degradation of water quality to areas potentially supporting California red-legged frog (i.e. the West Fork of the San Gabriel River). Data from the hydrologic and sediment transport analysis (Please see Section 3.8 [Hydrology] of the EIR/EIS) conducted for this Project indicate that even under the most extreme erosion caused by the Project the downstream contribution of sediments to areas supporting this species would be negligible. That is, the total maximum annual erosion in tons/acre would contribute approximately 3.2 percent above baseline tonnage over any given storm event. This total is well within the natural variation that occurs within any given storm event and would not result in a large contribution of sediment or result in levels of turbidity above natural storm events. With the implementation of best

management practices to control erosion the total sediment load would be further reduced by 30 to 50 percent.

Currently SCE does not have a specific APM intended to reduce impacts to listed amphibians in the proposed Project area. Measures proposed by SCE that would reduce this impact include APM BIO-1, APM BIO-2, APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6, and APM BIO-7. These APMs include conducting clearance surveys for wildlife, minimizing vegetation removal at construction sites, avoiding streambeds to the extent practicable, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to wildlife with the regulatory agencies. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not clearly address impacts to listed amphibians, and do not provide defined mitigation ratios or avoidance measures to rare species. Therefore to further reduce impacts of the proposed Project to California red-legged frogs SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys For California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring).

These measures would avoid or minimize impacts to California red-legged frogs, if present, through the acquisition of mitigation lands to off-set vegetation removal that may be utilized by this species; the control of exotic weeds which can alter habitat; limit work in riparian areas; utilize erosion control and storm water BMPs to reduce sediment transport to aquatic areas; limit road access during rain events, ensure vehicles use roadways during daylight hours, and implement a series of avoidance BMPs (Described in Mitigation Measure B-8a and B-8b) that would ensure Project-related effects to this species are minimized. Nonetheless, if present, SCE would be required to cease construction activities that could result in a “take” of this species and obtain concurrence from the FWS that “take” would not occur or be authorized for “take” through the context of a Biological Opinion.

Mitigation Measures for Impact B-8

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-8a** Conduct protocol surveys for California red-legged frogs and implement avoidance measures. SCE shall conduct Fish and Wildlife Service (FWS)-approved protocol surveys for California red-legged frogs at the Amargosa Creek, Monte Cristo Creek, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River within the Central Region. If surveys have been conducted to protocol within two years of start of construction and no red-legged frogs were identified, surveys would not need to be repeated prior to start of

construction. Surveys will continue at least every two years until construction is complete. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence prior to conducting the surveys.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the project area the following information:
 - A detailed description of the red-legged frog including color photographs;
 - The protection the red-legged frog receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
 - The protective measures being implemented to conserve red-legged frogs and other species during construction activities associated with the Project; and
 - A point of contact if red-legged frogs are observed.
- All trash that may attract predators of the red-legged frogs will be removed from work sites or completely secured at the end of each work day. If California red-legged frogs are detected in or adjacent to the Project, the following shall apply:
 - Between 1 November and 31 March, no work will be authorized within one mile of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized. The one-mile buffer distance may be reduced based on the topography of the site with the approval of the FWS, FS, and CPUC.
 - Between April 1 to 31 October, no work will be authorized within 500 feet of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized.
 - If present, SCE shall monitor all related construction activities and develop and implement a monitoring plan that includes the following measures in consultation with the FWS and FS.
 - Prior to the onset of any construction activities, SCE shall meet on-site with staff from the FWS and the CPUC/FS-approved biologist (authorized biologist). The authorized biologist shall hold a current red-legged frog permit from FWS. SCE shall provide information on the general location of construction activities within habitat of the red-legged frog and the actions taken to reduce impacts to this species. Because red-legged frogs may occur in various locations during different seasons of the year, SCE, FWS, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on red-legged frogs.
 - Where construction can occur in habitat where red-legged frogs are widely distributed, work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/FS/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas.
 - The authorized biologist will direct the installation of the fence and conduct a minimum of three nocturnal surveys to move any red-legged frogs from within the fenced area to suitable habitat outside of the fence. If red-legged frogs are observed on the final survey or during subsequent checks, the authorized

biologist will conduct additional nocturnal surveys if he or she determines that they are necessary in concurrence with the FWS/CDFG/FS/CPUC.

- Fencing to exclude red-legged frogs will be at least 24 inches in height.
- Construction activities that may occur immediately adjacent to breeding pools or other areas where large numbers of red-legged frogs may congregate will be conducted during times of the year (winter) when individuals have dispersed from these areas or the species is dormant, unless otherwise authorized by CPUC, FS, and FWS. The authorized biologist will assist SCE in scheduling its work activities accordingly.
- If red-legged frogs are found within an area that has been fenced to exclude red-legged frogs, activities will cease until the authorized biologist moves the red-legged frogs.
- If red-legged frogs are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the red-legged frogs. The authorized biologist in consultation with FWS/CDFG/FS/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
- Any red-legged frogs found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when red-legged frogs may be present on the access road. Traffic speed should be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove, from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by California red-legged frogs.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.

B-8b Conduct biological monitoring. SCE shall provide a qualified biologist with demonstrated expertise with the listed wildlife species likely to occur in the Project area. This person(s) shall monitor all construction activities daily within suitable habitat for listed or sensitive wildlife. The resumes of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to the onset of ground-disturbing activities.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

H-1b Dry weather construction. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

To date California red-legged frogs or mountain yellow-legged frogs have not been identified within the proposed Project area. However, suitable habitat occurs for this species at several locations. In addition, California red-legged frogs are known to occur within several miles of Amargosa Creek in the Leona Valley (Segment 5). Construction activities that result in direct mortality or the degradation of habitat utilized by this species would be considered significant. While SCE will implement APMs BIO-1 through BIO-7 as part of the proposed Project, if present, take of federally and state-listed species as described above would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the FWS. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). Mountain yellow-legged frogs are not expected to occur, but if present, are likely to be detected during surveys and monitoring required under Mitigation Measures B-8a and B-8b.

Impact B-9: The Project would result in the loss of arroyo toads.

The arroyo toad is federally endangered and a California Species of Special Concern. In the proposed Project area the arroyo toad is known to occur within portions of the ANF, in Alder Creek, Littlerock Creek, Mill Creek, Tujunga Creek, and Lynx Gulch, a tributary to Tujunga Creek. This species has also been observed in portions of the Santa Clara River outside the Project area and has the potential to occur at several other drainages within the proposed Project. Of those drainages, construction activities including road grading or culvert repair could result in direct or indirect mortality to this species at the following drainages: Kentucky Wash, Big Tujunga Creek (Segment 6/11), Alder creek, and Monte Cristo Creek. Although Kentucky Wash is dry most of the year and may seem an unlikely breeding location for arroyo toads, the species is known to occur at other drainages that are dry most of the year (e.g., San Onofre Creek [Holland et al., 2001] and Fish Creek). The arroyo toad has also been documented at extremely xeric desert localities such as Pinto Canyon in southwestern Imperial County (Jennings and Hayes 1994), Santiago Creek (a tributary to Littlerock Creek on the ANF), and Castaic Creek; all of which may be dry for extended periods. In addition, arroyo toads are known to utilize upland habitats for foraging and dispersal, including coastal sage scrub and chaparral several hundred meters from water (Griffin and Case, 2001; FS Species Accounts, 2005).

In an effort to maintain and stabilize existing populations, each of the southern California National Forests are currently implementing efforts to modify and change management activities to minimize potential

effects. Arroyo toad populations are localized and face a variety of threats. Many populations occur immediately below major dams. The manner in which water is released from upstream reservoirs can greatly influence arroyo toad reproductive success. In addition, predatory nonnative species are a significant threat (FS Species Accounts, 2005).

Invasive and nonnative plants are also a problem in some areas. Tamarisk and arundo colonize newly created flood terraces and can form dense masses of vegetation. These dense stands have higher rates of evapotranspiration than native vegetation, thereby decreasing the amount of available surface water. Tamarisk and arundo also stabilize stream terraces, deepening flood channels and resulting in unsuitable habitat for arroyo toads (Stephenson and Calcarone 1999; FS Species Accounts, 2005).

Campgrounds and roads near arroyo toad breeding pools have resulted in toads and their egg masses being inadvertently crushed by vehicle and foot traffic and disturbed by water recreation. There are a number of national forest campgrounds located near arroyo toad breeding habitat—seven on the Los Padres National Forest, four on the Angeles National Forest, and four on the Cleveland National Forest. Seasonal closures and/or restrictions on vehicle access have recently been instituted at some of these campgrounds to reduce impacts (e.g., Beaver, Lion, and Mono Campgrounds on the Los Padres and Joshua Tree Campground on the Angeles). Road crossings in toad habitat are also being evaluated, and several on the Los Padres and Cleveland have been relocated or rebuilt to reduce impacts to breeding pools (Stephenson and Calcarone 1999; FS Species Accounts, 2005).

Factors influencing survival between breeding seasons may include desiccation, starvation, depredation by native and introduced species, and activities that disturb non-breeding habitats (Sweet, 1992). Drought, especially when combined with water diversions from streams, can lead to a scarcity or early drying of breeding pools and restrict foraging during the period essential for rapid growth. Drought and water diversions also cause the loss of damp subsurface soil, which may result in high adult mortality (Sweet, 1992). The extended five-year drought in southern California during the late 1980s has been closely tied to extremely low reproductive success and subsequent population declines of arroyo toads during this period (Sweet, 1992). During the 2006-2007 rain year, one of the driest years on record in southern California, reproduction of this species was also reduced. Protocol surveys conducted by Aspen at Littlerock Creek and Castaic Creek on the ANF detected little evidence of large-scale breeding and few metamorph toads were identified later in the season.

This species was detected by SCE biologists during surveys conducted on May 29, 2007 at Alder Creek. In addition, reconnaissance-level surveys for the species conducted at each of the five major drainages between 25 and 29 September 2007 did not detect the species. However, surveys conducted by SCE in 2008 detected this species at Lynx Gulch and Forest biologists located a crushed toad on the Lynx Gulch access road the same month (road 4N18 near Segment 6. Figure 3.4-5, located in the Map & Figures Series Volume). This illustrates the cryptic nature of this species and emphasizes the requirement for multiple surveys in areas where potential for this species occurs.

Direct impacts to arroyo toad could occur as a result of crushing from mechanized equipment, temporary disruption of foraging or thermoregulation sites in adjacent upland areas, fugitive dust, or the disruption of egg masses from impacts to water quality. Arroyo toads spend the majority of their life cycles well away from aquatic habitat and impacts to adjacent vegetation can have deleterious effects on this species (Cadre Environmental, 2002).

Breeding behavior could also be disrupted due to construction noise, corona noise, and the timing of construction activities. Disturbance to the area would be associated with the temporary removal of

vegetation for the construction of tower footings or pulling sites, stream crossings (see Impact B-4 for a full discussion of the impacts associated with the use of access roads), or road grading. Similar to the California red-legged frog, construction activities conducted on steep drainages can also result in sediment transport to areas occupied by this species.

Construction activity may result in the incidental take of individual toads, egg masses, and larvae depending on the construction season. Because this species is largely nocturnal, impacts from vehicle use at dawn, dusk, and during the evening would be of concern because this species is known to traverse roads between riparian and upland habitats, especially during rain events. Large numbers of toads, both adults and juveniles, can be active at night during the spring and early summer under otherwise dry conditions. During these activities, toads may move onto and across roads, where they are subject to road kill by passing vehicles. Under the proposed Project approximately 5.8 miles of dirt roadways occur within occupied or potentially occupied habitat. These roads would be subject to some form of road grading either to widen the road to support heavy equipment or to allow all weather access. Although SCE has indicated that construction activities would be limited to daylight hours and the FS will restrict the use of access roads during rain events, toads are known to burrow into the friable soils that occur along road edges and may be subject to mortality by even minimal traffic. As described above, a crushed toad was discovered by FS biologists on Lynx Gulch road. Currently SCE has indicated this road would be utilized during construction of the proposed Project.

Use of the helicopter staging areas may also result in adverse effects to arroyo toads, if present. Currently staging area SCE 6 occurs near habitat occupied by the arroyo toad. This site is located near Big Tujunga River east of Alder Creek. Helicopter site SCE 2 is located adjacent to the Aliso drainage and helicopter site SCE 5 occurs west of Mill Creek. Use of these sites would require clearance prior to use.

Direct effects to juvenile toads may also occur. In many cases, recruitment of metamorphic arroyo toads may occur in only a small section of the stream, even if breeding activity has been more widely distributed. Observations on the Los Padres National Forest (Sweet, 1992) and on other sites in Orange and San Diego Counties indicate that even brief human activities are likely to result in substantial mortality of metamorphic toads. This is usually not a deliberate act; the cryptic nature, very small size (<20 mm or 0.8 in) and immobility (when on the surface) of metamorphic toads foster accidental trampling.

Indirect effects to this species, if present, may be caused by the diversion or modification of water flows, increased downstream sediment transport, or the establishment of noxious weeds. Human activities can indirectly affect arroyo toads by increased noise or by attracting predators such as the common raven, kit fox, and coyote from trash and litter (Boarman, 2002). Increased noise levels can interfere with breeding and mask the approach of predators. Corona noise from the new lines could also affect breeding by interfering with the high pitched call arroyo toads depend on to attract females. A detailed discussion of corona noise is included under Impact B-41 below.

Indirect impacts could also occur from clearing and grading for new tower locations. The removal of vegetation from these areas could result in erosion and downstream transport of sediment into habitat that occurs downhill from these areas. Data from the hydrologic and sediment transport analysis (Please see Section 3.8 [Hydrology]) indicate that the increase in sediment over baseline would range from 0.8 percent at Alder Creek above Big Tujunga to 14.2 percent at the North fork of Mill Creek. These data indicate that even under the most extreme erosion caused by the Project the downstream contribution of sediments to areas supporting this species is well within the natural variation that occurs within any given

storm event and would not result in a large contribution of sediment or result in levels of turbidity above natural storm events. With the implementation of best management practices to control erosion the total sediment load would be further reduced by 30 to 50 percent. Nonetheless, sediment transport could be substantial on a local level at stream crossings where best management practices have not been implemented.

The permanent loss of arroyo toad upland habitat is expected to be minimal as the towers are located well above the creek channel in most cases. However, because of the cryptic nature of this species and the amount of vehicle traffic required to access the proposed tower locations, arroyo toads present in the ANF could be subject to incidental take. No critical habitat for this species would be affected by the proposed Project.

Operational impacts to arroyo toad are similar to many of the construction impacts, and include crushing by vehicles or trampling, increased sedimentation and dust due to use of access roads by the public and maintenance personnel, and the spread of exotic weeds.

There are no specific APMs that address impacts to this species. As previously described SCE would implement a series of APMs to reduce impacts to wildlife. However, these measures lack the required specificity to ensure that the effects to this species are adequately minimized. Minimization measures will be required that provide for the restoration of habitat, require worker training, and implement avoidance measures to reduce the take of this species. This would include limitations on the use of access roads, avoiding work in occupied habitat during the activity period for this species, and monitoring Project work areas. To reduce the effects of the proposed Project SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring).

Mitigation Measures for Impact B-9

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-8b** Conduct biological monitoring. (See full description under discussion for Impact B-8)
- B-9** Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas. In areas known to support arroyo toads (Lynx Gulch, Monte Cristo Creek, and Alder Creek) the following avoidance measures shall be implemented.
 - SCE shall avoid ground disturbing activities (i.e. grading, stream crossing upgrades, parking) along access roads within the one mile buffer for arroyo toads during the

activity period for arroyo toads (March-November). This date and buffer may be modified based on the existing temperature regime and habitat conditions with ANF and FWS approval.

- SCE shall limit use of the access roads in this area within the one-mile Arroyo toad buffer area to daylight hours only during the activity period for arroyo toads (generally March-November), unless otherwise approved by the ANF (on NFS land), FWS, and/or the CPUC (on private land). Use of these roadways during rain events shall not occur during the activity period for arroyo toads. Vehicle speeds shall be limited to 15 MPH and no parking or loitering shall occur along the access roads.
- SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat. The monitor shall inspect the roadway and work sites throughout the day and log the time and weather conditions in the area. If toads are found on the roadway vehicle access shall be restricted until the animal has moved off the road or is relocated by a permitted arroyo toad biologist in accordance with the FWS accepted relocation guidelines.

SCE shall conduct Fish and Wildlife Service-approved protocol surveys for arroyo toad at the following locations: Kentucky Wash, Aliso Canyon, and Big Tujunga Creek (Segment 6/11) within two years to the start of construction. If arroyo toads are detected, further surveys within the area will not be required and the avoidance measures detailed below will be followed. If no arroyo toads are detected, surveys will be repeated every two years until construction is completed.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
 - a. A detailed description of the arroyo toad including color photographs;
 - b. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
 - c. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the Project; and
 - d. A point of contact if arroyo toads are observed.
- For all areas in which this species has been documented SCE shall develop and implement a monitoring plan that includes the following measures in consultation with the FWS and Forest Service.
 - SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of arroyo toad.
 - All trash that may attract predators of the arroyo toad will be removed from work sites or completely secured at the end of each work day. Prior to the onset of any construction activities, SCE shall meet on-site with staff from the FS and the authorized biologist. SCE shall provide information on the general location of construction activities within habitat of the arroyo toad and the actions taken to reduce impacts to this species. Because arroyo toads may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists

will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on arroyo toads.

- Any arroyo toads found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- SCE shall restrict work to daylight hours, except during an emergency, or unless otherwise authorized by the FS (on NFS land) or the CPUC (on private land) in order to avoid nighttime activities when arroyo toads may be present on the access roads. Traffic speed shall be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove, from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by arroyo toads.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8).

H-1b Dry weather construction. (See full description under Hydrology, Section 3.8).

CEQA Significance Conclusion

The arroyo toad is known to occur at Alder Creek, Big Tujunga Creek, and Lynx Gulch and has the potential to occur at several other locations within the ANF. This species is not expected to occur on non-FS lands affected by the proposed Project. Even with the implementation of avoidance and minimization measures described above construction activities associated with the proposed Project are likely to result in the incidental take of arroyo toad from vehicle access across or adjacent to Alder Creek, Lynx Gulch, and/or Tujunga Creek or its tributaries. Because arroyo toads are small and cryptic they are easily subject to mechanical crushing by humans and construction equipment.

Construction activities that result in direct mortality or the degradation of habitat utilized by this species would be considered significant absent mitigation (Class II). SCE would implement APMs BIO-1 through BIO-7 as part of the proposed Project. However, the take of federally and State-listed species as described above would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the FWS. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality

permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure AQ-1a (Implement dust control measures). SCE shall provide the Biological Opinion from the FWS prior to initiating any activities within suitable habitat for this species.

These measures include, but are not limited to, avoiding the peak breeding period, the placement of exclusion fencing if animals are present, implementation of a capture and release program, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate take, including loss of habitat, thereby reducing potential impacts to a less-than-significant level (Class II).

Threatened and Endangered Reptiles

The desert tortoise is a federal and State threatened species that ranges from the Mojave and Sonoran deserts of southeastern California and southern Nevada, south through Arizona into Mexico. It occurs primarily on flats and bajadas with soils ranging from sand to sandy gravel with scattered shrubs. The desert tortoise requires sufficient suitable plants for forage and cover, and suitable substrates for burrows and nest sites. The desert tortoise is threatened by off-road vehicles, livestock grazing, and mining. Disease related to human-caused stress is also taking a heavy toll on the desert tortoise (Christopher et al., 2003).

Although the potential for this species to occur along the proposed Project route is low, there is some potential for this species to occur in the northern sections of Segments 4 and 10. No critical habitat or desert tortoise management areas occur in the proposed Project area.

Impact B-10: The Project would result in the loss of desert tortoises.

Potential habitat for the desert tortoise occurs in Joshua tree woodlands and creosote scrub habitats present in the Northern Segment of the proposed Project. Historically this portion of the Antelope Valley likely supported populations of this species; however, there are no records for desert tortoise and no sign of their presence was detected during focused surveys of the transmission line corridor. Currently this area is not considered within the range of this species. Focused, non-protocol level surveys conducted in support of this EIR/EIS for desert tortoise were conducted in June 2006 in portions of Segment 10 in the Northern Region where habitat is suitable for desert tortoise and where access had been granted. Reconnaissance-level surveys were also conducted across Segments 4 and 10 in June 2006 and September 2007. Although the habitat within the area surveyed is suitable for desert tortoise, no sign of desert tortoise was detected. While no records for desert tortoise exists within the proposed Project area and no sign of their presence was detected during focused surveys, the potential occurrence of desert tortoise in Joshua tree woodland-creosote bush scrub habitats within the proposed Project cannot be ruled out. Recent surveys completed by SCE in 2007 for the Windhub substation, which is located at the northern terminus of Segment 10, identified several abandoned burrows but no sign of recent use was noted. If these burrows belonged to tortoises they have likely been abandoned for decades. One possible reason for the apparent absence of this species within other portions of the Northern Segments is the historic agricultural and cattle grazing that occurred in the region. These effects result in rapid type changes of habitat and can facilitate the introduction of exotic plants in some community types.

Direct impacts associated with construction of the proposed Project could include mortality due to collisions with vehicles or heavy equipment, fugitive dust, crushing of burrows, and increased noise

levels. Indirect impacts could include loss of habitat; the introduction of non-native, invasive plant species; and increased human presence.

Construction activities that result in direct mortality or the degradation of habitat utilized by this species, if present, would be considered a “take” of federally and State-listed species as described above and would constitute an impact that would be authorized only through the context of a Biological Opinion issued from the FWS. To reduce impacts to desert tortoise SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures include pre-construction clearance surveys, restoring areas subject to Project disturbance, controlling the spread or colonization of noxious weeds, relocation of animals from the work area, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate effects to this species.

Mitigation Measures for Impact B-10

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-10** Conduct presence or absence surveys for desert tortoise and implement avoidance measures. SCE shall contract with a Fish and Wildlife (FWS)-authorized biologist to conduct FWS protocol-surveys for desert tortoise in the vicinity of the proposed Windhub Substation site at the northern terminus of Segment 10, where historic tortoise burrows were documented and habitat is suitable. The resumes of the FWS-authorized biologists will be provided to the CPUC for concurrence prior to conducting the surveys. This biologist will be referred to as the “authorized biologist” hereafter. Additionally, a qualified biologist shall conduct focused clearance surveys for desert tortoise prior to construction activities within areas of the Project north of Vincent Substation that are designated in the West Mojave Plan (WMP) as desert tortoise “Survey Areas.” Clearance surveys are not required in developed or agricultural areas. Clearance surveys shall follow the FWS’s desert tortoise survey protocol, as modified within the WMP (BLM 2005). If tortoises or intact active burrows are found in the impact area or if the authorized biologist determines that a tortoise may enter the construction site, SCE shall halt work within 500 feet of the tortoise or burrow and develop and implement a mitigation and monitoring plan that includes the following measures in consultation with the FWS and CDFG. Construction activities may not resume within 500 feet of a tortoise or in tortoise habitat without concurrence from the FWS and CDFG.
- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
 - a. A detailed description of the desert tortoise including color photographs;
 - b. The protection the desert tortoise receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;

- c. The protective measures being implemented to conserve the desert tortoise and other species during construction activities associated with the Project; and
- d. A point of contact if desert tortoises are observed.
- All trash that may attract predators of desert tortoises will be removed from work sites or completely secured at the end of each work day.
- In construction areas in occupied desert tortoise areas, work and staging areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the authorized biologist in concurrence with the FWS/CDFG/CPUC.
 - If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease until the authorized biologist moves the desert tortoises.
 - If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the individual(s). The authorized biologist in consultation with FWS/CDFG/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
 - Any desert tortoises found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
 - SCE shall follow the tortoise Handling Guidelines at all times if handling tortoises is required.
 - The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
 - SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when desert tortoise may be present on the access road. Traffic speed shall be maintained at 15 mph or less in the work area.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Desert tortoises are not expected to occur within the proposed Project area with the exception of the approved Windhub Substation site at the northern terminus of Segment 10 (Windhub Substation is not a part of the proposed TRTP). At this site, several old historic burrows were identified and habitat is suitable for desert tortoise. Construction activities that result in the take of desert tortoise, a federally and state-listed species, would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the FWS and an Incidental Take Authorization from CDFG. To reduce impacts to desert tortoise SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b

(Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of these measures would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

Construction of the proposed Project would increase the number and size of transmission towers and substation-associated structures that provide potential nest sites for common ravens (*Corvus corax*) and raptors. These species are known predators of juvenile desert tortoises and other small species that have the potential to occur in the Northern Region. A total of 165 and 96 new towers are proposed for Segments 4 and 10, respectively, and the Whirlwind substation is proposed at the southern terminus of Segment 10 (SCE, 2007).

Common ravens are known to nest and perch on transmission towers and are opportunistic predators that will prey upon wildlife species in the vicinity of the transmission towers. Perch sites and the availability of prey items have led to substantial increases in raven populations in desert regions particularly near human development (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; Steenhof et al., 1993). The new towers from the proposed Project would result in an increase in potential nesting and perching sites for common ravens in the Antelope Valley where the desert tortoise has some potential to occur. However, raven population increases appear to be more associated with increased food supplies made available via human disposal (e.g., landfills, dumpsters, and litter) than access to perch sites (Kristan et al., 2004). In addition, perch sites in the proposed Project area do not appear to be a limiting factor as many of the existing towers are utilized by ravens and other birds as roosting sites and Joshua trees are relatively abundant in the northernmost portion of the Project where desert tortoises have the potential to occur. Population increases, if they occur, are expected to be small and food supplies are not expected to change appreciably. Therefore, increased predation on the desert tortoise, if present, is not expected to result from additional towers.

CEQA Significance Conclusion

Increases in common raven populations may occur as a result of the increased availability of potential nest sites. Population increases, if they occur, are expected to be small because nest sites in the area are not limited and food supplies are not expected to change appreciably. Therefore, increased predation on the desert tortoise is not expected to result from additional towers, and impacts are considered to be less than significant (Class III).

Threatened, Endangered, and Special-status Fish

Impact B-12: The Project would result in the loss of special-status fish.

Four special-status fish species have the potential to occur in the proposed Project area. These include the federally listed Santa Ana sucker (*Catostomus santaanae*), the State and federally listed unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), and the arroyo chub (*Gila orcuttii*) and Santa Ana speckled dace (*Rhinichthys osculus* ssp. 8), both California Species of Special Concern. The unarmored threespine stickleback is also a State designated fully protected species.

The unarmored threespine stickleback was once widely distributed in the Los Angeles basin; however, its current distribution is limited to the upper Santa Clara River, San Antonio Creek, and Whitewater River (Moyle, 2002). Critical habitat has been proposed for this taxon (USFWS, 2002) though it does not occur in any portion of the Project area. The Soledad Canyon zone, the nearest area of proposed critical habitat for unarmored threespine stickleback, lies approximately three miles west of the area of the Segment 11 span of Aliso Creek. Unarmored threespine sticklebacks are not expected to occur within the Project area.

The Santa Ana sucker is known to occur in Big Tujunga Creek, the San Gabriel River, and the Santa Ana River (Moyle, 2002; USFWS, 2005f; CNDDDB, 2007). Designated critical habitat Unit 2 for the Santa Ana sucker occurs along the West Fork San Gabriel River beginning at Cogswell Reservoir. Road 2N25, which runs adjacent to the West Fork San Gabriel River in the vicinity of critical habitat Unit 2, would be used as an access road by SCE. In addition, a portion of designated critical habitat Unit 3 for Santa Ana sucker occurs in Big Tujunga Canyon near the Project area (USFWS, 2005f). Streams on the ANF are the primary refugia for Santa Ana suckers. The few remaining populations require site-specific management. The primary threats to existing small populations are habitat fragmentation, habitat degradation, stream flow alterations, and introduced species. Heavy recreational use and building of "recreational dams" to pool water for instream water play may also contribute to the decline of the species. On Big Tujunga Creek these species are expected to occur downstream of the dam and would not be directly affected by activities conducted at the Big Tujunga Crossing upgrade. However, portions of Big Tujunga Creek are located downstream of potential tower locations where sediment could reach the creek if Best Management Practices were not employed.

In the Project area the arroyo chub is known to occur in Big Tujunga Creek and the west, east, and north forks of the San Gabriel River. The Santa Ana speckled dace's range has diminished dramatically to the headwaters of the San Gabriel and Santa Ana Rivers (Moyle and others, 1995). The largest remaining population of Santa Ana speckled dace is on the ANF on lower reaches of the east, north, and west forks of the San Gabriel River including Cattle Canyon, Bear Creek, and Fish Canyon (Swift and others, 1993). Other reported occurrences include Pacoima Creek, Little Tujunga Creek, and Big Tujunga Creek, but more recent information indicates these populations may now be extirpated (Moyle and others, 1995).

If special-status fish species are present, direct impacts could include mortality due to crushing by heavy equipment and vehicles, and water quality degradation caused by increased sedimentation, erosion, or accidental chemical spills. Indirect impacts could include loss of suitable breeding and spawning habitat, removal of riparian and aquatic vegetation, and decreased water quality due to sedimentation and erosion. Operational impacts would be similar due to an increase in human presence as a result of facilitated public use of new and improved spur roads and access roads.

Project-related construction activities including the construction of all-weather crossings at Big Tujunga River, the San Gabriel River, road upgrades, and vehicle passage through tributary drainages could result in injury or mortality of the Santa Ana sucker, arroyo chub, and Santa Ana speckled dace if present. The construction and use of access and spur roads can also have detrimental effects on fish populations by creating barriers to movement. See Impact B-4 for a complete discussion of the effects of access and spur roads. However, the distribution of these species is limited within the proposed Project area due to the location of two major dams and their associated reservoirs (Tujunga and Cogswell). Populations of Santa Ana sucker that occur in the West Fork of the San Gabriel River would not be directly affected by Project construction activities as the tower sites are located upstream of the Cogswell Reservoir. However, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir (West Fork Cogswell Road). Santa Ana

sucker, Santa Ana speckled dace, and arroyo chub are all known to occur in this section of the river. This road is located immediately adjacent to the river and numerous small ephemeral and intermittent drainages provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to Santa Ana suckers and other fish, if present.

Proposed Project activities upslope from aquatic habitats could also generate runoff, adversely affecting special-status fishes. Project-generated runoff could result in mortality or sublethal effects to all life stages of special-status fishes. Runoff could include erosional silt and spills of toxic chemicals that may be washed into aquatic habitats during rain events. Toxic chemicals subject to spillage and runoff include, but are not limited to, engine fuels (e.g., gasoline and diesel); motor oil; hydraulic fluid; and various other oils, greases, and solvents. Silt can adhere to the eggs of fishes and interrupt gas exchange, while toxic chemicals may poison inhabitants of aquatic habitats.

Direct effects to unarmored threespine stickleback are not likely to occur from Project construction. This species occurs outside of the proposed Project area and would not be subject to direct take from construction or vehicle access. Sediment transport from upslope areas to water supporting this species is also not expected to result in direct or indirect effects to the species. Data from the hydrologic and sediment transport analysis (Please see Section 3.8 [Hydrology]) conducted for this Project indicate that even under the most extreme erosion caused by the Project the downstream contribution of sediments to areas supporting this species would be negligible. That is the total maximum annual erosion in tons/acre would contribute approximately 10 percent above baseline tonnage over any given storm event at Aliso Canyon and the Santa Clarita River and 4.9 percent at Kentucky Springs and the Santa Clara River. This total is well within the natural variation that occurs within any given storm event and would not result in a large contribution of sediment or result in levels of turbidity above natural storm events. With the implementation of best management practices to control erosion the total sediment load would be further reduced by 30 to 50 percent.

Impacts to Santa Ana sucker, speckled dace, and arroyo chub may occur from vehicle access and construction activities conducted at Big Tujunga Creek and the West Fork of the San Gabriel River. Populations of Santa Ana sucker that are present in portions of Aliso Creek and the Santa Ana River occur well outside the Project area and construction activities would not occur within the watersheds supporting these species. As described above, vehicle access and construction through these areas when supporting flowing water could result in mortality to Santa Ana suckers, speckled dace, and arroyo chub if present. Take of Santa Ana sucker would only be authorized through the context of a Biological Opinion.

To reduce these effects SCE shall implement a series of measures that would limit construction activities during periods of high flow, avoid vehicle crossings of tributary drainages to the West Fork of the San Gabriel River along West Fork Cogswell Road, survey and monitor work in stream areas, implement best management practices to reduce the off-site transport of sediment-laden waters into adjacent water bodies, require the development of avoidance measures for riparian crossings, and develop a RCA treatment plan that identifies the specific measures that would be implemented to reduce effects to riparian-dependent species. These measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry

weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for fish and aquatic organisms).

Mitigation Measures for Impact B-12

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-8b** Conduct biological monitoring. (See full description under discussion for Impact B-8)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8).
- H-1b** Dry weather construction. (See full description under Hydrology, Section 3.8).
- B-12** Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms. On or near the West Fork Cogswell road, SCE shall pre-stage a complete Hazardous Material Spill kit(s) capable of containing a large vehicle spill of gasoline, diesel, or other hazardous materials. The kit(s) shall be located and maintained in areas accessible to crews in the event a bridge or other road blockage has occurred. Contents of the kit(s) shall be approved by the FS. A biological monitor with knowledge of the special-status fishes known to occur in the area shall inspect the roadway a minimum of three times a day from October 1 to April 30 and one time a day from May 1 through September 30 (unless otherwise approved by the FS) during construction to inspect for leaks, spills, or other debris that may enter the San Gabriel River. Spills on the roadway will be logged and reported to the FS and CPUC monitor weekly and cleaned up immediately. Any spills that reach the San Gabriel River will be reported to the FS, FWS, and CPUC within one hour.

No loitering, maintenance, refueling, or equipment staging shall occur on the West Fork Cogswell road. Prior to vehicle access metal plates, bridges, or other FS-approved structures shall be placed above all wet crossings.

Prior to any work in the San Gabriel River, Big Tujunga River, or their tributaries where flowing or ponded water is present SCE shall conduct surveys for fish and other special-status aquatic organisms. The species noted in the project area shall be reported to the FS. No work shall be conducted in the flowing portion of the stream and water shall be diverted around the work area in a manner that does not restrict the movement of aquatic organisms unless authorized by the FS and CDFG (through the context of a Streambed Alteration Agreement). Block nets or other barriers may be required if fish or other special-status species are present. All activities that occur within ponded or flowing water shall be coordinated with the FS on NFS lands. Quarterly for duration of construction work in the San Gabriel and Big Tujunga Rivers, SCE shall prepare a report documenting the type and number of species located and any actions taken to relocate or exclude the species. This shall be reported to the FS and CPUC no later than 30 days following the completion of work at the San Gabriel or Big Tujunga Rivers.

If Santa Ana suckers occur in live portions of the creek where construction activities are scheduled to occur, SCE shall retain a qualified biologist with a FWS permit for the Santa Ana sucker to monitor all construction activities in occupied Santa Ana sucker habitat and assist SCE

in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

CEQA Significance Conclusion

The introduction of excessive silt or toxic chemicals could result in significant direct and indirect impacts to special-status fishes. Riparian habitat could also be impacted at drainages within the ANF where these species may occur. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce these impacts to less-than-significant levels (Class II).

Impact B-13: The Project would result in the loss of critical habitat for the Santa Ana sucker.

Critical habitat for Santa Ana sucker exists downstream of Cogswell Reservoir, in an area that would include an access road for heavy equipment. This access road is paved and runs for approximately 7.4 miles adjacent to the West Fork San Gabriel River (West Fork Cogswell Road). Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light and temperature regimes from the trimming and/or removal of some riparian vegetation. As described under Impact B-12, vehicle passage through flowing water or leakage onto roadways that is transported into the river during storm events could result in the degradation of habitat.

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials. However, through the implementation of Project minimization measures described under Impact B-12 these effects would be minimized or avoided. With the implementation of these measures the Project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Operational effects would not occur because once the Project has been completed use of the West Fork Cogswell Road would not occur.

Mitigation measures have been identified that would reduce impacts to critical habitat for the Santa Ana sucker. These measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for fish and aquatic organisms).

Mitigation Measures for Impact B-13

B-1a Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)

- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-8b** Conduct biological monitoring. (See full description under discussion for Impact B-8)
- B-12** Implement avoidance and minimization measures for fish and aquatic organisms. (See full description under discussion for Impact B-12)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8).
- H-1b** Dry weather construction. (See full description under Hydrology, Section 3.8).

CEQA Significance Conclusion

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials. However, through the implementation of Project mitigation measures described under Impact B-12 these effects would be minimized or avoided. With the implementation of these measures the Project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Therefore, impacts of the proposed Project on critical habitat for the Santa Ana sucker would be less than significant with the implementation of mitigation (Class II). Operational effects would not occur because once the Project has been completed use of the West Fork Cogswell Road would not occur. Mitigation measures that would reduce impacts to Santa Ana sucker critical habitat include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for fish and aquatic organisms).

Threatened and Endangered Birds

Several state and federally listed bird species have the potential to occur in the proposed Project area. These species use a broad range of habitats, and one or more may occur within each of the proposed segments. Of particular importance are riparian areas, which support several listed neo-tropical migrant birds and coastal sage scrub habitats, which support the year-round resident coastal California gnatcatcher. Table 3.4-7 contains a complete inventory of the threatened and endangered avian species that could occur in the proposed Project area.

Impact B-14: The Project would result in the loss of California condors.

The California condor is considered present within the Northern and Central Regions and may soar over portions of the Southern Region of the proposed Project. Although condors are not known to regularly use any particular site within the proposed Project, they do occur broadly over the proposed Project area during foraging trips. They have been documented at Whittaker Peak, Bear Divide, and Mt. Lukens on the ANF. Their current distribution on NFS lands includes the western half of the ANF. Potential threats

on NFS lands due to resource management activities include modification or loss of habitat components (primarily large trees), behavioral disturbance caused by vegetation treatment activities, facilities maintenance (including roads), and recreation. The greatest concern to condors in the Project area is their potential to collide with power lines. Bird collisions with power lines generally occur when a power line or other aerial structure transects a daily flight path used by a concentration of birds and when migrants travel at reduced altitudes and encounter tall structures in their path (Brown, 1993).

Collisions and electrocutions with electrical distribution structures were a significant mortality factor for the reintroduced population of California condors during the first several years of release efforts (Snyder and Snyder, 2000). Seven condors died due to collisions or electrocutions in California from December 1988 to June 1999 (Meretsky et al., 2000). This threat was thought to have largely resulted from the tendency of young birds to associate with human structures (Snyder and Snyder 2000). This hazard has been greatly reduced by releases of birds that have been trained to avoid perching on mock utility poles fitted with electroshock mechanisms (Snyder and Snyder 2005). All recorded instances of collisions and electrocutions have been with distribution structures, and transmission lines and structures have not represented a collision or electrocution threat to the California condor (J. Burnett, personal communication). Condors have excellent eyesight (Snyder and Snyder, 2005) and do not fly during inclement weather, factors which may explain why they readily avoid transmission lines. Electrocution and collision risks to avian species are discussed in detail below under Impacts B-20 and B-21.

Direct impacts to condors, if present, could occur through the loss of or disruption of foraging habitat, noise from helicopter operation and ground-based construction activities, the introduction of micro-trash, and exposure to ethylene glycol antifreeze. Indirect effects could result from a disruption of normal foraging activity through the use of the new or improved access and spur roads and subsequent increase in human activities. Degradation and alteration of habitat due to construction activities could preclude use by condors. Operational effects would include collision or electrocution with the transmission line (see Impacts B-20 and B-21) and increased human presence due to new or improved access and spur roads.

Construction activities such as construction of crane pads, towers, pulling/splicing locations, concrete batch plants, and staging areas, would result in the clearing of large open areas. Construction debris, litter, leaking equipment, or road kill can attract this species to the proposed Project. Condors are curious birds and have been documented in close association with oil pumps and human activity on the Los Padres National Forest. During cleanup activities at trash sites, condors have been observed sitting on guard rails adjacent to the cleanup activities. Adverse effects to condors have also been documented by the animal's collection of micro-trash (i.e., broken glass, paper and plastic waste, small pieces of metal). This waste is often brought back to nest sites where young birds ingest the material. This can lead to mortality of young birds. Ethylene glycol, a component in antifreeze and petroleum products can also be ingested by condors, ultimately leading to death. Increased access to remote parts of the ANF through road improvements or during construction activities can result in increased human use of the sites, recreational shooting, or hunting. While lead ammunition has recently been banned for use in deer hunting, access to gut piles or prey remains subjected to lead can also result in lead poisoning in condors.

Several California condors have died in the wild since the beginning of the release program. In California, four captive-raised individuals died after interactions with power lines, two drowned in steep-sided natural water courses, one died after consuming ethylene glycol, and one died from malnutrition and dehydration. Three birds died after being brought into captivity because of malnutrition, cancer, and a gunshot wound. Eight other birds have disappeared and are presumed dead (USFWS, 2001b).

There are no specific APMs that address impacts of the proposed Project on condors. However, construction of the proposed Project is not expected to adversely affect condor roost sites. The closest roost sites to the Project area include Mt. Lukens, which is within one mile of Segment 11. There are perch sites available in the dense forested areas of the ANF that are crossed by the line. Condors often return to traditional sites for perching and resting. Traditional roost sites include cliffs and large trees and snags (roost trees are often conifer snags 40 to 70 feet tall), often near feeding and nesting areas. Condors may remain at the roost site until midmorning, and generally return in mid- to late afternoon. It is anticipated that the expansion of condors back into their historical range will continue, thus impacting the entire Project area within life of the Project.

Noise from helicopter operation is not expected to adversely affect this species as roost sites are not known to occur in the region. However, if soaring in the region, helicopter use would result in adverse effects to this species and may discourage the use of the area during the course of construction.

The loss of foraging habitat from the proposed Project is expected to be minimal, and restoration of disturbed sites would be completed at the conclusion of construction. Most foraging occurs in open terrain of foothills, grasslands, potreritos with chaparral areas, or oak savannah habitats. Historically, foraging also occurred on beaches and large rivers along the Pacific coast (USFWS, 2005e). Water is required for drinking and bathing (Zeiner et al. 1990). Construction activities would result in the loss of habitat within the expected range of the condor. This consists of relatively small amounts of habitat compared to what is regionally available. In addition, condors that occur in the region forage on carrion and occur primarily at feeding stations in the Los Padres National Forest, well outside the Project area. However, condors are increasing their current range and moving into areas not recently inhabited by this species. Therefore, condors could move into and utilize the proposed Project area.

SCE would implement a series of APMs to reduce effects to wildlife. However, these measures lack the required specificity to ensure that the effects to condors are adequately minimized. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion.

Mitigation Measures for Impact B-14

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-8b** Conduct biological monitoring. (See full description under discussion for Impact B-8)
- B-14** Monitor construction in condor habitat and remove trash and micro-trash from the work area daily. SCE shall retain a qualified biologist with demonstrated expertise for

California condors to monitor all construction activities within the Project area and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologist(s) will be provided to the CPUC and FS for concurrence. This biologist(s) will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within known condor-occupied areas. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed. If condors are observed in helicopter construction areas, SCE shall avoid further helicopter use until the animals have left the area. The authorized biologist will have radio contact with the project foreman, who will be in radio contact with the helicopter pilot. The biologist will provide information to SCE to avoid conflicts with condors. All condor sightings in the Project area will be reported to the FWS and FS (on NFS lands). SCE will coordinate with FWS on the construction schedule and helicopter work areas to determine if any condors have been tracked or observed in the vicinity of the Project area. If condors are observed in helicopter construction areas, then SCE shall avoid further helicopter use until the animals have left the area and the FWS will be notified immediately. Should condors be found roosting within 0.5 miles of the construction area, no construction activity shall occur between 1 hour before sunset to 1 hour after sunrise, or until the condors leave the area. Should condors be found nesting within 1.5 miles of the construction area, no construction activity will occur until further authorization occurs from FWS and FS on NFS lands.

Microtrash. All trash is required to be disposed of as written in the Proper Disposal of Construction Waste Plan for the Project. Additional language has been added to this Plan to address the disposal of microtrash. Workers will be trained on the issue of microtrash – what it is, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area will occur to collect and remove trash in locations with the potential for California condors to occur.

Worker Education. SCE will develop a flier that will be distributed to all workers on the project concerning information on the California condor. Information to be included consists of the following: species description with photos and/or drawings indicating how to identify the California condor and how to distinguish condors from turkey vultures and golden eagles; protective status and penalties for violation of the ESA; avoidance measures being implemented on the Project; and contact information for communicating condor sightings.

Reporting. All California condor sightings in the Project area will be reported directly to the FWS, FS, and CPUC. Prior to the commencement of helicopter activity, a Project biologist will contact a FWS condor biologist to determine if any condors are flying in the vicinity of the Project area.

CEQA Significance Conclusion

Construction activities associated with tower construction or operation could result in impacts to condor, if present. Project actions that result in the take of this species would only be authorized through the context of a Biological Opinion from the FWS. Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impacts to condors from exposure to ethylene glycol, loss of habitat, loss of perch sites, or micro-trash ingestion would be considered significant absent mitigation (Class II). As described above, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and

implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion. Implementation of these measures would reduce impacts to this species to less-than-significant levels (Class II).

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

Willow flycatchers have been documented within the Project area, in Whittier Narrows and in Upper Big Tujunga Canyon. There is no known nesting of southwestern willow flycatchers within the ANF, and the Project does not fall within critical habitat for willow flycatchers (USFWS, 2005d). However, the Project is within the historical range of the species, and potentially suitable nesting habitat is present within portions of Amargosa Creek, the ANF particularly along the West Fork Cogswell Road and Upper Big Tujunga Creek, the Whittier Narrows Recreation Area, at the Whittier Narrows Nature Center, and at the Rio Hondo. Migrant flycatchers have also been noted at various times in the Puente Hills Landfill Native Habitat Preservation Authority lands and within the ANF at Piru Creek, near the Chilao Visitor Center, and in Bouquet Canyon. Surveys conducted by SCE in June of 2007 detected a total of seven willow flycatchers in Segments 6 and 11 adjacent to the Whittier Narrows Nature Center and Recreation Area, along the Rio Hondo, and at San Jose Creek. These birds were determined to be migrants of a northern subspecies; however, the willow flycatcher is State endangered at the species level. Potential threats that have been identified on NFS lands are directed towards nesting habitat and include wildfires and resultant flooding, water diversion or extraction, unauthorized vehicle use, high levels of dispersed recreation, road and trail construction and use, invasive non-native vegetation, cowbird parasitism, and predation.

The least Bell's vireo is known to nest along portions of Segment 8 and directly adjacent to Segment 7. Nesting Least Bell's vireos have been confirmed at the Whittier Narrows, Puente Hills Landfill Native Habitat Preservation Authority lands, and the Santa Fe Flood Control Basin. There is also potential least Bell's vireo habitat in riparian areas along Segments 6 and 11 on the ANF. This species has not been recorded nesting on NFS lands in the proposed Project area. However, as the species range continues to expand it is likely this species will one day colonize portions of the ANF. The primary threats to this species on NFS lands include habitat degradation and parasitism by brown-headed cowbirds. Habitats suitable for least Bell's vireo within this segment include Southern Arroyo Willow Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Mule Fat Scrub. Construction activities may result in the loss of least Bell's vireo habitat due to installation of permanent structures and/or roads and disturbance from construction activities. The proposed Project may result in the loss of an estimated 0.5 acre of Southern Willow Scrub on Segment 7 and 1 acre of Southern Sycamore Alder Riparian Woodland on Segment 8. Some of this may be occupied by least Bell's vireos.

The yellow-billed cuckoo is not currently known to nest along the proposed Project. However, the Project is within the historical range of yellow-billed cuckoo, and marginally suitable nesting habitat is present in the Whittier Narrows Recreation Area, Whittier Narrows Nature Center, and the Rio Hondo.

Based on the proposed Project design provided by SCE, the transmission lines would span these drainages, and disturbance or removal of riparian communities would be related to the upgrade of existing access and spur roads where they cross riparian habitat. Nevertheless, construction immediately adjacent to riparian habitats may affect nesting southwestern willow flycatchers, least Bell's vireos, and yellow-

billed cuckoos should they occur. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The construction and use of access roads in riparian areas could also disturb nesting riparian birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife.

Direct impacts to southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads and altered hydrology. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impact B-21 below), loss of habitat due to vegetation trimming and removal during maintenance activities, and disturbance of birds due to the presence of maintenance personnel.

Many riparian birds including southwestern willow flycatcher, least Bell's vireo, yellow-billed cuckoo and other neo-tropical migrants are adversely affected by noise and human disturbance. Reijnen et al. (1995) demonstrated that for two species of European warbler (*Phylloscopus* spp.), sound levels between 26 dB(A) and 40 dB(A) reduced breeding density by up to 60 percent compared to areas without disturbance. In addition, while current sound thresholds for most birds in California are considered to be approximately 60 dB(A), this level may still adversely affect breeding success for least Bells vireo and southwestern willow flycatcher. W. Haas (personal communication, 2007) reported that in 1999, sound levels were recorded at 87 locations containing similar habitat conditions in the vicinity of the San Luis Rey River, the most robust and stable population of flycatchers in California. Data indicated that noise levels were the most important factor for occupancy. Based on sound levels, 90 percent of territories were occupied at levels at 49 dB(A), 75 percent at 51 dB(A), 50 percent at 53 dB(A), 25 percent at 55 dB(A), and no territories were occupied at 60 dB(A) (W. Haas personal communication, 2007). These data suggest disturbance from adjacent road noise and urban development may be a contributing factor in the use of habitat adjacent to developed areas.

Noise from helicopter operation could also affect these species if present on NFS lands. However, there has been no documentation that these species currently nest on the ANF. Human presence, as well as removal/disturbance of vegetation during construction would also have the potential to disrupt least Bell's vireos, particularly at access roads or staging areas if the transmission lines cross or are placed adjacent to riparian areas.

One important factor in assessing effects to riparian birds is the unique habitat types used by each species. For example, least Bell's vireo will use riparian scrub communities that southwestern willow flycatcher and yellow-billed cuckoo generally avoid. Currently SCE does not have a specific APM intended to reduce effects to listed birds in the proposed Project area. Measures proposed by SCE that would reduce this effect include APMs BIO-1 through BIO-7. These APMs include conducting clearance surveys for wildlife, minimizing vegetation removal at construction sites, avoiding streambeds to the extent practicable, implementing best management practices, biological monitoring, personnel training, and coordinating and compensating for effects to special-status wildlife with the regulatory agencies. However, as described above, these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project to southwestern willow flycatcher, least Bell's vireo, and yellow-billed cuckoo, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA

Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct pre-construction surveys and monitoring for breeding birds), Mitigation Measure B-15 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These surveys would include potential riparian habitat along access roads that cross various riparian drainages.

Mitigation Measures for Impact B-15

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-5** Conduct pre-construction surveys and monitoring for breeding birds. (See full description under discussion for Impact B-5)
- B-15** Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat. If construction activities occur during the breeding season at the Whittier Narrows Recreation Area, Whittier Narrows Nature Center, Puente Hills Landfill Native Habitat Preservation Authority lands, and/or the Rio Hondo, or other areas including the ANF that have the potential to support listed riparian species, a qualified ornithologist shall conduct protocol surveys of the Project and adjacent areas within 500 feet. Fish and Wildlife Service (FWS) protocol surveys will be conducted for southwestern willow flycatcher, least Bell's vireo, and western yellow-billed cuckoo. In known occupied habitat for listed riparian birds, SCE shall only conduct focused surveys of the Project and adjacent areas within 500 feet. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.
- Protocol or focused surveys, as appropriate, should be conducted, within one year of start of construction and can stop at commencement of construction activities. These surveys may be modified through the coordination with the FWS, CDFG, FS, USACE, State Parks (under Alternative 4), and the CPUC based on the condition of habitat, the observation of the species, or avoidance of riparian areas during the breeding season.
- If a territory or nest is confirmed, the FWS and CDFG shall be notified immediately. On NFS lands, USACE lands, or State Park (under Alternative 4) lands, these agencies would be notified immediately. In coordination with the FWS and CDFG, a 300-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. No construction shall occur within this buffer during the breeding season for this species.
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Implementation of the proposed Project could result in disturbance that causes southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos to abandon their nests and/or result in the loss of reproductive effort. This impact would be considered significant without mitigation (Class II). Take of these federally and state-listed species through loss of habitat would only be authorized in the context of a Biological Opinion issued by the FWS and an Incidental Take Authorization from CDFG. As described above, to reduce impacts of the proposed Project to southwestern willow flycatcher, least Bell's vireo, and yellow-billed cuckoo, SCE shall implement a series of mitigation measures intended to reduce or avoid direct and indirect impacts of construction on this species. These include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct pre-construction surveys and monitoring for breeding birds), Mitigation Measure B-15 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

The coastal California gnatcatcher is known to nest within the Southern Region along Segments 7 and 8 in the Montebello Hills, Coyote Hills near Fullerton, and the Puente-Chino Hills. Suitable Coastal Sage Scrub habitat within the proposed Project also exists along the San Gabriel River within the Whittier Narrows Recreation Area. During focused surveys conducted in August 2007 through January 2008, gnatcatchers were detected in the Montebello Hills along Segment 8, at the Puente Hills Landfill Native Habitat Preservation Authority near Segment 8, and just south of Turnbull Canyon Road along Segment 8. On the ANF, steep slopes at the southern end of Segments 6 and 11 support marginal, low-suitability habitat for this species. However, the presence of this species cannot be ruled out in this area as a population that has been identified in the lower foothills of the eastern San Gabriel Mountains may extend into the ANF. The primary threats to this species on NFS lands include recreation, access, and adjacent land uses along lower elevation slopes supporting suitable coastal sage scrub habitat.

Direct impacts to coastal California gnatcatcher could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads. Additional loss of habitat could occur through the construction of towers, crane pads, staging areas, pulling/splicing locations, and concrete batch plants. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impact B-21 below), loss of habitat due to vegetation trimming and removal during maintenance activities, and disturbance of birds due to the presence of maintenance personnel.

Ground-disturbing activity, including tower pad preparation and construction and grading of new access roads, has the potential to disturb vegetation used by nesting birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Noise from helicopter operation, which would occur in many sections of the ANF could also adversely affect nesting birds. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take. Therefore, SCE

shall implement APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-16

B-1b Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)

B-16 Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures. SCE shall conduct protocol surveys for coastal California gnatcatchers in areas supporting coastal sage scrub habitat that may be affected by the Project. In known occupied habitat for the California gnatcatcher, SCE shall only conduct focused surveys for coastal California gnatcatchers. Survey areas shall include a 500-foot buffer around Project disturbance areas.

If a territory or nest is confirmed, the FWS shall be notified immediately. In coordination with the FWS a 300-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. No Project activities may occur in these areas unless otherwise authorized by FWS. SCE shall obtain incidental take authorization from the FWS prior to further activities.

Protocol or focused surveys, as appropriate, shall be conducted, at a minimum, within one year of start of construction and can stop at commencement of construction activities. These surveys may be modified through the coordination with the FS on NFS lands, USACE on USACE lands, State Parks in the Chino Hills State Park (Alternative 4 only), and the CPUC based on the condition of habitat, the observation of the species, or avoidance of nesting areas during the breeding season.

Construction activities in occupied gnatcatcher habitat will be monitored by a full-time qualified biologist. The monitoring shall be of a sufficient intensity to ensure that the biologist could detect the presence of a bird in the construction area. At a minimum one full-time monitor shall be present for every two miles of active construction within occupied habitat.

SCE shall retain a FWS-permitted biologist to monitor construction activities within 100 feet of an active California gnatcatcher nests in the Montebello Hills area only and assist SCE in the implementation of the monitoring program. A 300-foot buffer is required for all other areas. A biologist with applicable avian experience with the California gnatcatcher will monitor all construction activities within 300 feet of occupied California gnatcatcher habitat. The resumes of the permitted biologists will be provided to the CPUC for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could result in disturbance that causes coastal California gnatcatchers to abandon their nests and/or result in the loss of reproductive effort, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation

Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

The FWS designated 13 critical habitat units for the coastal California gnatcatcher, including two areas along Segment 7 (Montebello Hills and Whittier Narrows Recreation Area) and several portions along Segment 8A in the Montebello, Puente, and Chino Hills including the Puente Hills Native Habitat Preservation Authority lands. The proposed transmission line would traverse 0.5 mile of designated critical habitat in Segment 7 and 8 miles of critical habitat in Segment 8.

Direct impacts to coastal California gnatcatcher habitat include loss of habitat due to grading and clearing for road improvements, staging areas, helicopter landing sites, pulling/splicing locations, etc. Indirect impacts to habitat include the accumulation of dust and the spread of noxious weeds. Operational impacts include the degradation of habitat due to increased human presence associated with use of new or improved access and spur roads by the public, and loss of habitat due to vegetation trimming and removal during maintenance activities.

Construction activities, including the installation of permanent structures and/or roads, would result in the loss of an estimated 2.4 acres (<0.001 acre permanent and 2.4 acres temporary) of gnatcatcher critical habitat on Segment 7 and 42.6 acres (2.1 acres permanent and 40.5 acres temporary) on Segment 8. Take of this federally listed species through loss of occupied habitat and/or modification of designated critical habitat would only be authorized in the context of a Biological Opinion issued by the FWS. However, the overall loss of critical habitat would be small and is not expected to diminish the value or remove essential constituent elements of occupied critical habitat for this species. By avoiding direct effects to the species during the breeding season and replacing lost habitat, the effects of the Project would be minimized. Therefore, to reduce the effects of the proposed Project on designated critical habitat SCE shall implement APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), Mitigation Measure B-17 (Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-17

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-16** Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures. (See full description under discussion for Impact B-15)
- B-17** Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher. To mitigate effects from Project construction, SCE shall acquire habitat occupied by the coastal California gnatcatcher and/or restore unoccupied coastal sage scrub. Mitigation acquisition shall occur at a 3:1 ratio unless otherwise approved by the FWS upon consultation. For lands located within the Montebello Hills HCP a 1:1 ratio will be implemented unless otherwise approved by

the FWS. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Management of coastal California gnatcatcher mitigation areas will be necessary to maintain habitat suitability over time. Activities that need to be addressed in the management plan include disturbances that reduce shrub cover, such as frequent fire, mechanical disruption, livestock grazing, off-highway vehicle use, and military training activities. Fee title acquisition of these habitat lands or a conservation easement shall be transferred to an entity approved by the FWS and the CPUC, along with funding for enhancement of the land and an endowment for management of the land in perpetuity.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could substantially reduce the number or restrict the range of coastal California gnatcatcher through loss of occupied habitat and would result in modification of designated critical habitat, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-8, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure B-17 (Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher) would reduce impacts to less-than-significant levels (Class II).

Impact B-18: The Project would disturb nesting Swainson's hawks.

The Swainson's hawk nests in areas such as riparian woodlands, roadside trees, trees along field borders, and the edges of remnant oak woodlands. There are five CNDDDB records of Swainson's hawk in the vicinity of the proposed Project in the Northern Region, including two recent nest records within 10 miles. Migrating Swainson's hawks have been observed in the past in the Puente Hills Landfill Native Habitat Preservation Authority lands. Although no records are within the proposed Project, reconnaissance surveys in 2007 detected suitable foraging and nesting habitat. Nesting Swainson's hawks, therefore, are considered likely within this region of the proposed Project. As such, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

Direct impacts to Swainson's hawk could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads. Additional loss of habitat could occur through the construction of towers, crane pads, staging areas, pulling/splicing locations, and concrete batch plants. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include electrocution or collision with transmission lines (see Impacts B-20 and B-21 below) and disturbance of birds due to the presence of maintenance personnel.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, and buffer zones must be placed around nest locations to reduce this risk. CDFG recommends that the buffer zone be 0.25 mile in nesting areas away from urban development (CDFG 1994). These buffer zones may be adjusted as appropriate in consultation with a

qualified ornithologist and CDFG. Therefore, SCE shall implement APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-18b (Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-18

B-1b Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)

B-18a Conduct pre-construction surveys for Swainson's hawks. To assure that nesting Swainson's hawks are not disturbed by construction activities, a qualified ornithologist shall conduct pre-construction surveys within one mile of the Project in regions with suitable nesting habitat for Swainson's hawks. The survey periods follow a specified schedule: Period I occurs from 1 January to 20 March, Period II occurs from 20 March to 5 April, Period III occurs from 5 April to 20 April, Period IV occurs from 21 April to 10 June, and Period V occurs from June 10 to July 30. Surveys are not recommended during Period IV because identification is difficult, as the adults tend to remain within the nest for longer periods of time. No fewer than three surveys per period in at least two survey periods shall be completed immediately prior to the start of Project construction. If a nest site is found, consultation with CDFG shall be required to ensure Project construction will not result in nest disturbance. CDFG recommends that no new disturbances or other Project-related activities that may cause nest abandonment or forced fledging be initiated within 0.25 mile of an active nest between 1 March and 15 September, or until 15 August if a Management Authorization is obtained for the Project from the CDFG (CDFG, 1994). These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG.

B-18b Removal of nest trees for Swainson's hawks. Nest trees for Swainson's hawks along the Project shall not be removed unless avoidance measures are determined to be infeasible. If a nest tree for a Swainson's hawk must be removed, a Management Authorization (including conditions to offset the loss of the nest tree) must be obtained from the CDFG. The Management Authorization will specify the tree removal period, generally between 1 October and 1 February. If construction or other Project-related activities that may cause nest abandonment by a Swainson's hawk or forced fledging are necessary within the specified buffer zone, monitoring of the nest site (funded by SCE) by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned and if the nestlings are still alive, SCE shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s).

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could result in disturbance that causes Swainson's hawks to abandon their nests or otherwise fail to reproduce, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measures B-18a (Conduct pre-construction surveys for Swainson's hawks), B-18b (Removal of nest trees for Swainson's hawks), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

Foraging habitat for Swainson's hawks includes dry land and irrigated pasture, alfalfa, fallow fields, low-growing row or field crops, rice land, and cereal grain crops (CDFG 1994). The primary foraging habitat for Swainson's hawks in the Antelope Valley is agricultural. The proposed Project will impact an estimated 49 acres of this habitat within the Northern Region, primarily along Segment 4. Swainson's hawks may also forage in non-native annual grassland and desert scrub habitats present within the proposed Project.

Direct impacts to Swainson's hawk foraging habitat include loss of habitat due to grading and clearing for road improvements, staging areas, helicopter landing sites, pulling/splicing locations, etc. Indirect impacts to habitat include the accumulation of dust and the spread of noxious weeds. Operational impacts include the degradation of habitat due to increased human presence associated with use of new or improved access and spur roads by the public and loss of habitat due to vegetation trimming and removal during maintenance activities.

Loss of potential Swainson's hawk habitat would represent an adverse impact if active Swainson's hawk nests are present within 10 miles of the proposed Project, which is the average maximum distance from nests that pairs are known to forage (CDFG, 1994). Two active nests were documented within 10 miles of the proposed Project in 2005 (CNDDDB, 2007) and may continue to be active in the future. Therefore, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-19

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-18a** Conduct pre-construction surveys for Swainson's hawks. (See full description under discussion for Impact B-17)
- B-19** Compensate for loss of foraging habitat for Swainson's hawks. Loss of foraging habitat for Swainson's hawks shall be mitigated by providing Habitat Management (HM) lands as described in the CDFG's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFG, 1994) because the site is known foraging habitat for Swainson's hawks. The final acreage of HM lands to be provided on site shall depend on the distance between the Project area and the nearest active nest site (CDFG, 1994), as determined by nest surveys conducted in the spring prior to Project construction. Guidance on the acreage of HM lands to be acquired by SCE can be found in the 1994 CDFG staff report.

Management Authorization holders/Project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands).
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Loss of foraging habitat for the Swainson's hawk as a result of Project implementation could result in significant impacts to this species by substantially reducing the habitat available for the species. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Direct and operational impacts from the proposed Project would be the same and would include electrocution of large aerially perching bird species. Indirect effects associated with this impact would include increased risk of wildfire due to electrocuted birds or nests contacting flammable vegetation or other materials.

California condors, Swainson's hawks, bald and golden eagles, peregrine falcons, and other large aerial perching birds are susceptible to electrocution on power lines because of their large size, distribution, and proclivity to perch on tall structures that offer views of potential prey. The design characteristics of transmission towers/ poles are a major factor in raptor electrocutions. Electrocution occurs when a perching 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 tower/pole with insufficient clearance between these elements. Electrocution can occur when horizontal separation is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan or where vertical separation is less than a bird's length from head-to-foot. Electrocution can also occur when birds perched side-by-side span the distance between these elements (APLIC 2006).

The largest birds that could come in contact with the transmission lines of the proposed Project are the California condor (wingspan approximately 9 feet, height approximately 4.2 feet) and bald eagle with a wingspan of up to 8 feet (wrist-to-wrist length of 2.8 feet) and height (head-to-foot) up to 2.3 feet (APLIC, 2006). The golden eagle has a wingspan of up to 7.5 feet (wrist-to-wrist length of 3.5 feet) and height up to 2.2 feet (APLIC, 2006). The Swainson's hawk has a 4.5-foot wingspan, and can be 1.3 feet tall. The red-tailed hawk is the most common large bird that could come in contact with the subtransmission lines and are widespread in all three Project regions. The red-tailed hawk's wingspan is up to 4.7 feet (wrist-to-wrist length of 1.9 feet) and height up to 1.8 feet (APLIC, 2006). Other large birds that could in contact with the subtransmission lines are the turkey vulture (5.8-foot wingspan, two-foot wrist-to-wrist length, 1.8 feet tall) and great horned owl (4.3-foot wingspan, 2.1-foot wrist-to-wrist length, 1.3 feet tall) (APLIC, 2006). None of the wrist-to-wrist lengths (or even wingspans) or heights of these birds is long enough to simultaneously contact two energized phase conductors for the proposed Project. If they were to roost communally, there is some potential that multiple birds would bridge the gap between two energized conductors. However, this would be difficult on a transmission line and the likelihood of this happening would be low.

Raptors that use the towers for nesting could be electrocuted while landing. Furthermore, nests may be built in areas that are susceptible to electrical charges that could result in fire as well as an electrical outage. Although the majority of raptor electrocutions are caused by lines that are energized at voltage levels between 1 kV and 69 kV, and "the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low" (APLIC 2006), the proposed Project could result in the electrocution of State and/or

federally protected bird species. However, current guidelines for constructing transmission lines have been developed to minimize the potential effects from bird strikes and electrocution. To reduce the effects of the proposed Project SCE shall implement APMs BIO-4 and BIO-9, which state that SCE construction and operations crews will use BMPs, and that transmission facilities will be designed to be raptor-safe in accordance with the *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC, 2006). On NFS lands raptor safety protection in the form of swan wrap will be required on towers/conductors (lines) on NFS lands where feasible. Additional mitigation is not warranted.

CEQA Significance Conclusion

Although special-status birds may under some circumstances be subject to electrocution, the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low (APLIC 2006). With the implementation of SCE APM BIO-4 and APM BIO-9 (construct in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* [APLIC 2006]); impacts to State and/or federally protected birds resulting from electrocution would be less than significant (Class III).

Impact B-21: The Project would result in collision with overhead wires by State and/or federally protected birds.

Direct effects associated with this impact would be the same as the operational effects and would include mortality of bird species due to collision with overhead power lines, towers, cranes, or other Project components.

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, or (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 (e.g., songbirds) and waterfowl (e.g., ducks) are known to collide with wires (APLIC, 2006), 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, while larger species generally fly over lines and risk colliding with higher static lines. Also, 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 proposed Project area. However, based on available information and observations made during reconnaissance surveys, it is generally expected that collision mortality would be greatest where the movements of susceptible species are greatest (e.g., near wetlands, open water bodies, etc.), such as Legg Lake and Santa Fe Flood Control Basin (Appendix B of the *Biological Specialist Report* [Aspen, 2008], Avian Risk Assessment). To reduce such mortality events, SCE would implement APM BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection found in *Suggested Practices for Raptor Protection on Power Lines* (APLIC 2006). With the implementation of this measure impacts to avian species are minimized. No further mitigation is warranted.

CEQA Significance Conclusion

With the implementation of APM BIO-9 and the incorporation of raptor safety protection into the Project design (i.e. tower/conductor [lines] on NFS lands), impacts to State and/or federally protected birds resulting from transmission line collisions would be less than significant (Class III).

Threatened and Endangered Mammals

Impact B-22: The Project would result in disturbance to Mohave ground squirrels.

The Mohave ground squirrel occupies open creosote bush scrub, alkali desert scrub, and Joshua tree woodland in areas with flat to moderate terrain. This species tends to avoid rocky areas and typically constructs burrows in sandy, alluvial, and gravelly soils (Best 1995).

The Mohave ground squirrel emerges from aestivation in spring, typically between mid-February and March, and actively forages for vegetation, seeds, arthropods, and fruit (Best 1995) and tends to stay close to its burrow while foraging. The breeding season occurs soon after emergence. After acquiring fat stores for hibernation, the Mohave ground squirrel typically enters aestivation in July or August.

Mohave ground squirrel habitat is primarily located within the Northern Region of the proposed Project, especially in areas within the Antelope Valley where Mojave creosote bush scrub, desert saltbush scrub (including desert wash), and Joshua tree woodland occur. In 2006 two potential observations of this species were recorded near Oak Creek Road close to the proposed Windhub site. In 2008 SCE conducted protocol surveys for this species near Oak Creek Road. Mohave ground squirrels were not observed or trapped during this event. While this area is generally outside the known range of the Mohave ground squirrel and habitat conditions do not meet the accepted criteria for this species there remains a potential for this species to be present based on the observations and known presence of this species in the region. Direct impacts to Mohave ground squirrel if present include crushing of burrows, mortality due to road kill, and loss of habitat. Indirect impacts include degradation of habitat due to the spread of noxious weeds and dust. Operational impacts include increased risk of road kill and disturbance due to increased use of access roads by the public and maintenance personnel.

Construction activities may result in take of individual Mohave ground squirrels within suitable habitat, if present. The largest threat to Mohave ground squirrel from the proposed Project would be crushing of burrows during grading and other construction activities. Individuals may also be hit by vehicles on access roads. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Take from Project implementation may also stem from loss of habitat due to installation of permanent structures and/or roads. Take of this State-listed species, including loss of habitat, would require a 2081 Incidental Take Permit from CDFG. Therefore, SCE shall implement APMs BIO-1 and BIO-4 through BIO-7, Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel).

Mitigation Measures for Impact B-22

B-1a Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)

B-1b Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)

B-3a Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)

B-22a Conduct protocol surveys for Mohave ground squirrels. Protocol-level surveys for Mohave ground squirrels shall be performed in the portion of the Project containing suitable habitat for Mohave ground squirrel unless further consultation with the CDFG determines the surveys are not required. A qualified biologist will perform these surveys according to CDFG's (2003b) *Mohave Ground Squirrel Survey Guidelines*. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys.

If at any time a Mohave ground squirrel is detected, trapping will cease. If these surveys obtain positive results for Mohave ground squirrel, or if Mohave ground squirrel presence is assumed within potential habitat, SCE shall obtain incidental take authorization from CDFG. If these surveys determine that the Mohave ground squirrel is absent, then no further action is necessary.

B-22b Implement construction monitoring for Mohave ground squirrels. A qualified biological monitor shall be on the site to survey for Mohave ground squirrel during initial ground-disturbing activities. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys. The name and phone number of the biological monitor shall be provided to a CDFG regional representative at least 14 days before the initiation of ground-disturbing activities. If the biological monitor observes a Mohave ground squirrel on the construction site, determines that a Mohave ground squirrel was killed by Project-related activities during construction, or observes a dead Mohave ground squirrel, a written report shall be sent to CDFG within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass and circumstances of its death (if known). Mohave ground squirrel remains shall be collected and frozen as soon as possible, and CDFG shall be contacted regarding ultimate disposal of the remains.

B-22c Preserve off-site habitat for the Mohave ground squirrel. To mitigate potential permanent impacts to Mohave ground squirrel habitat from Project construction, SCE will acquire habitat occupied by Mohave ground squirrels. Guidance on Habitat Management (HM) lands to be acquired by SCE can be found in CDFG's (2003b) *Mohave Ground Squirrel Survey Guidelines*.

- Three acres of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of Mojave creosote bush scrub and Joshua tree woodland outside of the Habitat Conservation Area (HCA) delineated in the WMP.
- One acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub that includes desert wash impacted by the Project outside of the HCA delineated in the WMP.
- One-half acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub impacted by the Project outside of the HCA delineated in the WMP.
- No mitigation will occur for agricultural, California annual grassland, or barren/developed ground within the Project area north of Vincent Substation.

Mitigation acquisition shall occur at a CDFG-approved location and shall be coordinated through a CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title acquisition of habitat lands or a conservation easement over these lands will be transferred to an entity approved by CDFG and CPUC, along with

funding for enhancement of the land and an endowment for permanent management of the lands. Management of off-highway vehicles is necessary on Mohave ground squirrel mitigation areas to prevent burrow collapse, especially during the aestivation season. Mitigation areas should be relatively flat with a perennial plant cover ranging from 10 to 20 percent (Zembal and Gall, 1980) and should support several plant species necessary for Mohave ground squirrel survival, including herbaceous annuals, winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), creosote bush (*Larrea tridentata*), and burrobrush (*Ambrosia dumosa*) (Best, 1995).

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could result in take of this State-listed species or loss of habitat, if present, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-7, Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II).

Effects on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Special-status Plants

At least seventy candidate, FS Sensitive, or special-status plant species have the potential to occur in areas of suitable habitat in the Project area. Table 3.4-21 presents the special-status plants that may occur within the proposed Project and the vegetation communities in which they may be found. Detailed descriptions, habitat preferences, and the known distribution of these species are presented in Appendix E of the *Biological Specialist Report* (Aspen, 2008). Many of these plant species are ephemeral in nature and include many spring-flowering annuals and herbaceous perennial species that are generally only visible during optimally timed field surveys in years of average rainfall or greater. Field surveys conducted in 2007 within the proposed Project generally occurred well outside of the optimal flowering period. In addition, rainfall levels in the region of the proposed Project during the rainfall year of 2006-2007 were well below the seasonal annual average (approximately 19 percent of average). As a result, focused surveys were conducted in the spring of 2008. These surveys provided excellent conditions for the detection of rare plants. During the 2008 surveys several rare plants were identified in the proposed alignment. These included: San Gabriel manzanita in Segments 6 and 11; fragrant pitcher sage along road cuts in Segment 6; short-joint beavertail in Segments 5 and 11; Greata's aster in Segments 6 and 11; Humboldt lily in Segment 11, giant bedstraw in Segment 6; San Gabriel oak in Segments 6 and 11, Coulter's Matilija poppy in Segment 11, and California walnut in Segment 8. In addition, California walnut and Catalina mariposa lily occur within the Chino Hills Alternatives.

Impact B-23: The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species.

Direct impacts to the special-status plant species listed in Table 3.4-21 would be the same as described for listed plant species (Impact B-7) and may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers or the grading of access or spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Construction on steep hillsides may also result in off-site sediment transport that may bury rare plants in adjacent habitat or alter soil conditions. Dust from road travel, grading, or other construction activities may also reduce photosynthetic capacity in plants over time or inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. As previously described for vegetation communities, soil disturbance may also result in the spread of invasive plant species. See Impact B-4 for a complete discussion of the effects of the construction and use of access roads. Operational impacts would also be the same as described for listed plants under Impact B-7 and include trampling or crushing due to public use of new or improved spur roads and access roads, increased erosion, and the spread and colonization of noxious weeds. Other operational impacts include removal and trimming of vegetation during maintenance activities.

Special-status plant species identified along the access/spur roads were fragrant pitcher sage, short joint beavertail cactus, Plummer's mariposa lily, California walnut, Greata's aster, San Gabriel manzanita, San Gabriel river dudleya, San Gabriel Mountains dudleya, Lemmon's syntrichopappus, Humboldt lily, and San Gabriel bedstraw. In many locations these species could be avoided by flagging prior to construction and working around known populations. However, at some locations road work may result in the loss of rare plants.

San Gabriel scrub oak, short joint beaver tail cactus and San Gabriel Manzanita were the most common FS Sensitive plants identified near tower sites. This is expected, as the dense stands of chaparral that occur at many of the tower sites exclude many other sensitive plant species. Although rare plants were only detected in a few areas, there is a potential for some species to occur in areas that have not been subject to intense focused surveys or may have failed to germinate even though the rain year was considered adequate to detect annual plants. If any of these species are encountered during pre-construction focused surveys, all individuals or populations within Project disturbance areas will be marked and avoided to the maximum extent possible. However, it is possible that some FS Sensitive plants would be subject to Project disturbance.

While not all the rare plants identified in the Project area would be subject to construction-related disturbance; there remains the potential for the loss or mortality to some rare plants. Some of these species are more common in the region and include California black walnut, San Gabriel scrub oak, short joint beaver tail cactus, and Lemmon's syntrichopappus. These species are considered to be more common in the ANF and are therefore less susceptible to loss on a forest-wide level. However, other species including fragrant pitcher sage, San Gabriel river dudleya, San Gabriel Mountains dudleya, Humboldt lily, Plummer's mariposa lily, and San Gabriel bedstraw are of a more limited distribution and

Table 3.4-21. Vegetation Communities within the Proposed Project Potentially Supporting Candidate, Forest Service Sensitive, or Special-status Plant Species

Vegetation Community	Potentially Occurring Species
Big Sagebrush Scrub	<ul style="list-style-type: none"> Parry's spineflower Mojave Indian paintbrush
Big Cone Douglas Fir-Canyon Oak Forest	<ul style="list-style-type: none"> Mojave Indian paintbrush Slender silver moss San Bernardino aster Palmer's mariposa lily Plummer's mariposa lily Plummer's mariposa lily San Gabriel Mountains sunflower Ocellated Humboldt lily Lemon lily San Gabriel linanthus Peirson's lupine Rock monardella Chickweed oxytheca San Bernardino grass-of-Parnassus
Bunchgrass Grassland	<ul style="list-style-type: none"> Thread-leaved brodiaea Plummer's mariposa lily California androsace Slender mariposa lily Round-leaved filaree Southern tarplant Smooth tarplant
California Annual Grassland	<ul style="list-style-type: none"> California androsace San Bernardino aster Braunton's milk-vetch Thread-leaved brodiaea Slender mariposa lily Plummer's mariposa lily Peirson's morning glory Round-leaved filaree Southern tarplant Smooth tarplant Coulter's saltbush Intermediate mariposa lily Many-stemmed dudleya
California Bay Forest	<ul style="list-style-type: none"> San Bernardino aster Plummer's mariposa lily Peirson's morning glory San Gabriel bedstraw Urn-flowered alumroot Mesa horkelia Southern California black walnut
California Walnut Woodland	<ul style="list-style-type: none"> California Androsace Thread-leaved brodiaea Round-leaved filaree Southern California black walnut Ocellated Humboldt lily
Canyon Oak Forest	<ul style="list-style-type: none"> San Bernardino aster Plummer's mariposa lily Peirson's morning glory San Gabriel bedstraw Urn-flowered alumroot Mesa horkelia Southern California black walnut Ocellated Humboldt lily San Gabriel oak
Chamise Chaparral	<ul style="list-style-type: none"> California androsace Braunton's milk-vetch Nevin's barberry Slender mariposa lily Palmer's mariposa lily Plummer's mariposa lily Peirson's morning glory Many-stemmed dudleya San Gabriel bedstraw Mesa horkelia Southern California black walnut Ocellated Humboldt lily San Gabriel linanthus Rock monardella San Gabriel oak San Gabriel manzanita Alkali mariposa lily San Gabriel river dudleya San Gabriel Mountains dudleya California satintail Fragrant pitcher sage Robinson's pepper-grass Davidson's bush mallow Short-joint beavertail cactus
Coast Live Oak Woodland	<ul style="list-style-type: none"> California androsace San Bernardino aster Thread-leaved brodiaea Plummer's mariposa lily Peirson's morning glory Round-leaved filaree San Gabriel bedstraw Urn-flowered alumroot Mesa horkelia Southern California black walnut Ocellated Humboldt lily
Coastal Sage Scrub	<ul style="list-style-type: none"> California androsace San Bernardino aster Braunton's milk-vetch Coulter's saltbush Nevin's barberry Thread-leaved brodiaea Slender mariposa lily Plummer's mariposa lily Peirson's morning glory Intermediate mariposa lily San Fernando Valley spineflower Parry's spineflower Slender-horned spineflower San Gabriel river dudleya San Gabriel Mountains dudleya Many-stemmed dudleya Southern tarplant Mesa horkelia California satintail Southern California black walnut Robinson's pepper-grass Ocellated Humboldt lily Davidson's bush mallow Brand's phacelia Chaparral sand-verbena Davidson's saltscale Rayless ragwort Salt spring checkerbloom
Coulter Pine Forest	<ul style="list-style-type: none"> Slender silver moss San Bernardino aster Palmer's mariposa lily Plummer's mariposa lily Peirson's morning glory Mt. Gleason Indian paintbrush Urn-flowered alumroot San Gabriel Mountains sunflower Ocellated Humboldt lily Lemon lily San Gabriel linanthus Peirson's lupine Rock monardella Chickweed oxytheca San Bernardino grass-of-Parnassus Mojave Indian paintbrush
Desert Bunchgrass Grassland	<ul style="list-style-type: none"> California androsace Peirson's morning glory
Desert Saltbush Scrub	<ul style="list-style-type: none"> Alkali mariposa lily Peirson's morning glory Mason's neststraw

Table 3.4-21. Vegetation Communities within the Proposed Project Potentially Supporting Candidate, Forest Service Sensitive, or Special-status Plant Species				
Vegetation Community	Potentially Occurring Species			
Desert Wash	<ul style="list-style-type: none"> San Fernando Valley spineflower Parry's spineflower 	<ul style="list-style-type: none"> Pygmy poppy White-bracted spineflower 	<ul style="list-style-type: none"> Lemmon's syntrichopappus 	<ul style="list-style-type: none"> Golden violet
Freshwater Marsh	<ul style="list-style-type: none"> Southern tarplant 			
Interior Live Oak Scrub	<ul style="list-style-type: none"> California androsace Braunton's milk-vetch Slender mariposa lily Palmer's mariposa lily 	<ul style="list-style-type: none"> Plummer's mariposa lily Parry's spineflower San Gabriel river dudleya San Gabriel Mountains dudleya 	<ul style="list-style-type: none"> San Gabriel bedstraw Mesa horkelia California satintail Fragrant pitcher sage 	<ul style="list-style-type: none"> Robinson's pepper-grass Ocellated Humboldt lily San Gabriel linanthus
Joshua Tree Woodland	<ul style="list-style-type: none"> Peirson's lupine 	<ul style="list-style-type: none"> Lemmon's syntrichopappus 	<ul style="list-style-type: none"> Golden violet 	
Mixed Chaparral	<ul style="list-style-type: none"> Chaparral sand-verbena California androsace San Gabriel manzanita Braunton's milk-vetch Nevin's barberry Slender mariposa lily Palmer's mariposa lily Plummer's mariposa lily 	<ul style="list-style-type: none"> Peirson's morning glory Alkali mariposa lily Intermediate mariposa lily Parry's spineflower San Gabriel river dudleya San Gabriel Mountains dudleya Many-stemmed dudleya San Gabriel bedstraw 	<ul style="list-style-type: none"> Mesa horkelia California satintail Southern California black walnut Fragrant pitcher sage Robinson's pepper-grass Ocellated Humboldt lily San Gabriel linanthus 	<ul style="list-style-type: none"> Davidson's bush mallow Rock monardella Short-joint beavertail cactus San Gabriel oak Rayless ragwort Salt spring checkerbloom Lemmon's syntrichopappus
Mojave Creosote Bush Scrub	<ul style="list-style-type: none"> Alkali mariposa lily 	<ul style="list-style-type: none"> Pygmy poppy 		
Pinyon and Juniper Woodlands	<ul style="list-style-type: none"> Mt. Gleason Indian paintbrush Mojave Indian paintbrush San Fernando Valley spineflower 	<ul style="list-style-type: none"> Parry's spineflower White-bracted spineflower Pygmy poppy 	<ul style="list-style-type: none"> Peirson's lupine Short-joint beavertail cactus Mason's neststraw 	<ul style="list-style-type: none"> Lemmon's syntrichopappus Golden violet
Mojave Mixed Woody Scrub	<ul style="list-style-type: none"> San Fernando Valley spineflower Parry's spineflower 	<ul style="list-style-type: none"> Pygmy poppy 	<ul style="list-style-type: none"> Short-joint beavertail cactus 	<ul style="list-style-type: none"> Lemmon's syntichopappus
Mule Fat Scrub & Riversidean Alluvial Fan Sage Scrub	<ul style="list-style-type: none"> Chaparral sand-verbena San Fernando Valley spineflower 	<ul style="list-style-type: none"> Parry's spineflower Slender-horned spineflower 	<ul style="list-style-type: none"> Mesa horkelia Davidson's bush mallow 	<ul style="list-style-type: none"> Brand's phacelia
Scrub Oak Chaparral	<ul style="list-style-type: none"> Chaparral sand-verbena California androsace San Gabriel manzanita Braunton's milk-vetch Nevin's barberry Slender mariposa lily Palmer's mariposa lily 	<ul style="list-style-type: none"> Plummer's mariposa lily Peirson's morning glory Alkali mariposa lily Parry's spineflower San Gabriel river dudleya San Gabriel Mountains dudleya Many-stemmed dudleya 	<ul style="list-style-type: none"> San Gabriel bedstraw Mesa horkelia California satintail Southern California black walnut Fragrant pitcher sage Robinson's pepper-grass 	<ul style="list-style-type: none"> Ocellated Humboldt lily San Gabriel linanthus Davidson's bush mallow Rock monardella Short-joint beavertail cactus San Gabriel oak
RiaprianForest, Woodlands, and Scrub	<ul style="list-style-type: none"> San Bernardino aster Nevin's barberry Slender-horned spineflower 	<ul style="list-style-type: none"> Southern tarplant Smooth tarplant 	<ul style="list-style-type: none"> California satintail Ocellated Humboldt lily 	<ul style="list-style-type: none"> Greata's aster Sonoron maiden fern
Sparsely Vegetated Streambeds	<ul style="list-style-type: none"> Chaparral sand-verbena San Fernando Valley spineflower 	<ul style="list-style-type: none"> Parry's spineflower Sender-horned spineflower 	<ul style="list-style-type: none"> Mesa horkelia Davidson's bush mallow 	<ul style="list-style-type: none"> Brand's phacelia

may be more susceptible to regional loss. However, as described above impacts to many of the plant species identified in the Project area could likely be avoided or reduced through the implementation of Project minimization measures.

Species including California black walnut were noted in the Chino Hills and other rare plants may occur there as well. Spring 2008 surveys detected very few rare plants at or near the proposed tower sites in the Northern and Southern Regions. Tower locations are typically in areas already degraded beyond the ability to support most special-status species by sheep grazing (Northern Region) and heavy existing weed infestations (Southern Region). However, some areas have not been disturbed and larger impact areas, such as substations, helicopter pads, staging areas, and new access/spur roads will require careful surveys to determine the presence and location of any special-status plant species. Along existing access roads, roadside habitat is typically disturbed or compacted beyond the capability to support many special-status plants; however, some disturbance-tolerant species can occur in these areas.

Although rare plants were only detected in a few areas, there is a potential for some species to occur in areas that have not been subject to focused surveys. If any of these species are encountered, all individuals or populations within Project disturbance areas will be marked and avoided to the maximum extent possible. However, it is possible that some non-listed plants would be subject to Project disturbance. Typically impacts to a small number of non-state- or federally listed special-status plants (i.e., impacts to a few individuals) or impacts to a population where loss of the population would not negatively affect the range of the special-status plant species are not typically considered significant impacts under CEQA or NEPA. However, when impacts to non-listed special-status plant species are unavoidable, impacts shall be compensated through reseeded (with locally collected seed stock), or other FS, USACE, and CPUC (as appropriate) approved methods. If Project activities will result in the loss of more than 10 percent of the known individuals within the FS Sensitive, and/or special-status plant species occurrence to be impacted, SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted).

SCE has indicated that APMs BIO-1 through BIO-7, described in Table 3.4-16, would be implemented as part of the proposed Project to avoid or minimize impacts to biological resources including rare plant species. These APMs include avoiding or compensating for impacts to unique vegetation communities, training personnel, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes. As proposed, the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate protection for rare plants, the following mitigation measures are presented to further reduce impacts of the proposed Project on listed plants: Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), and B-23 (Preserve off-site habitat/management of existing populations of special-status plants) below. The 2008 focused floristic surveys will be adequate to determine the distribution of rare plant species within the alignment for one year. However, there is some possibility that new populations of rare species could potentially establish in

areas where they were not previously observed due to dispersal and/or a change in the existing conditions that could favor some rare species, such as a recent burn. Therefore, should Project construction take place after 2009, further focused clearance surveys of all impact areas will be required to determine potential presence of and distribution of rare plant species within the alignment.

Mitigation Measures for Impact B-23

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-7** Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants. See full description under discussion for Impact B-7)
- B-23** Preserve off-site habitat/management of existing populations of special-status plants. SCE shall conduct rare plant surveys, and implement avoidance/minimization/compensation strategies. SCE shall conduct surveys during the floristic period appropriate for each of the rare plant species identified with the potential to occur within the Project ROW and within 100 feet of all surface-disturbing activities. The completion of these surveys shall be coordinated with the CPUC and federal land manager. Populations of rare plants shall be flagged and mapped prior to construction. If rare plants are located during the focused surveys, then modification of the placement of structures, access roads, laydown areas, and other ground-disturbing activities would be implemented in order to avoid the plants, if feasible. A report of special-status plants observed shall be prepared and submitted to the CPUC, State Parks (for activities in CHSP associated with Alternative 4), and the federal land manager (FS and USACE). Impacts to non-listed plant species (i.e., FS Sensitive, CNPS List 1,2 and 4 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding (with locally collected seed stock), or other FS, USACE, and CPUC approved methods. If Project activities will result in loss of more than 10 percent of the known individuals within an existing population of FS Sensitive, and/or special-status plant species SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted). On federal lands, this ratio may be reduced at the discretion of the federal land manager. The CPUC may reduce this ratio depending on the sensitivity of the plant on non-federal lands. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified plant ecologist.

All special-status plant species impacted by Project activities shall be documented in an annual report and submitted to the CPUC and federal land manager (FS and USACE). Where reseeding has occurred, SCE shall track the success of the plants during the course of the annual restoration monitoring. This information shall be submitted as part of the annual report to the CPUC and federal land manager (FS and USACE).

- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

Several FS Sensitive plant species were identified during focused surveys of the proposed Project in the spring and summer of 2008. Ground-disturbing activities including road clearing and tower construction have the potential to disturb these species. Impacts to these species would be considered significant without mitigation (Class II). However, impacts to special-status plant species would be reduced to a less-than-significant level through implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), which will prevent the disturbance of any individuals or populations of these species through Project redesign and avoidance. In addition, if large numbers of rare plant species are affected SCE shall implement Mitigation Measure B-23 (Preserve off-site habitat/management of existing populations of special-status plants). As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). Indirect effects caused by erosion would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). A Worker Environmental Awareness Program would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) to educate workers as to the sensitivity and potential for rare plants to occur.

Special-status Reptiles and Amphibians

Conditions in the proposed Project area provide habitat for numerous common and special-status reptiles and amphibians. Creeks and drainages, rocky outcrops, leaf litter, and friable soils provide an ample prey base and support conditions favorable to many species. Some of these species with the potential to occur include:

- Southwestern pond turtle
- Two-striped garter snake
- Coast Range newt
- San Gabriel Mountains slender salamander
- Western spadefoot
- San Diego horned lizard
- California horned lizard
- Silvery legless lizard
- Orange-throated whiptail
- Coastal rosy boa
- San Bernardino ringneck snake
- San Bernardino mountain kingsnake
- Coast patch-nosed snake
- Northern red diamond rattlesnake

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Construction activities will cross a number of small creeks and drainages, large reservoirs, and other suitable habitat for this species. Southwestern pond turtles have the potential to occur in a number of drainages and associated upland areas within the proposed Project including: Amargosa Creek, San Gabriel River (Segment 6-7), Big Tujunga Creek (Segment 6-11), Rio Hondo, Brea Canyon, and Tonner Creek. There is also one large population in the West Fork of the San Gabriel River below Cogswell Reservoir and smaller populations in Aliso Canyon and Alder Creek (Segment 11).

The pond turtle is normally found in and along riparian areas, although gravid females have been reported to nest more than 1,300 feet away from the nearest aquatic habitat (Holland 1994). Pond turtles may also make overland movements up to one mile between areas of aquatic habitat (Bury, 1972 in Ernst et al., 1994). The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

Direct effects to southwestern pond turtle may occur from construction activity as a result of mechanical crushing; loss of nesting, breeding or basking sites; and human trampling. Disturbance would be associated with the removal of vegetation, construction and widening of access and spur roads, excavation of footings, and tower construction adjacent to areas that support this species. Disruption of basking activity and potential impacts to southwestern pond turtles may result from construction activities, if pond turtles are moving from the creek to basking sites. Access road use including grading of existing roads or spur roads could also result in direct mortality from mechanical crushing or from the importation of sediment laden waters into existing drainages. See Impact B-4 for a full discussion of the impacts of the construction and use of access roads on wildlife.

Direct impacts to southwestern pond turtles could also result from temporary impacts to water quality, fugitive dust, temporary loss of upland nesting sites and foraging habitat, disruption of breeding activity, or disturbance of basking sites. Juvenile southwestern pond turtles typically move from nesting sites in adjacent upland or riparian areas to the stream in the spring (Buskirk, 1992). Hatchlings are very small, often less than one inch, and may be inadvertently trampled during Project construction. In addition, access to zooplankton, an important hatchling food source, may be disrupted if water quality were to be severely degraded by Project construction.

Indirect impacts to southwestern pond turtle would include alteration of habitat that would preclude pond turtle use, degradation of water quality over time due to siltation and sedimentation, and the spread of noxious weeds. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

The greatest potential for injury or mortality to southwestern pond turtles as a result of proposed Project activities is the damage or destruction of nesting areas. Since southwestern pond turtles often nest communally, damage or destruction of a nesting area could result in injury or mortality to a large number of incubating eggs or hatchling turtles and could disrupt egg-laying activities of adult female turtles.

Populations of this species that occur in the West Fork of the San Gabriel River would not be directly affected by Project construction activities as the tower sites are located upstream of the Cogswell Reservoir. However, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir. This road is located immediately adjacent to the river for several miles and is consistently within the riparian canopy. Numerous small ephemeral and intermittent drainages are also present in the canyon and provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the access road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to young or dispersing turtles, if present.

This existing West Fork Cogswell Road is paved and runs adjacent to the West Fork San Gabriel River. Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light regimes from the trimming and/or removal of some riparian vegetation to accommodate large vehicle passage. As described above, disturbance from vehicle traffic may result in disturbance to pond turtles at basking sites along this access road.

Construction activities conducted at the two perennial waterways (i.e., Upper Big Tujunga Creek and the West Fork of the San Gabriel River) where this species could occur could result in either direct mortality or adverse effects from sediment or chemical leaks.

To reduce effects of the proposed Project on pond turtles and other small reptiles or amphibians SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special-status species surveys, and coordinating with wildlife agencies. However, as described above these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for fish and aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-24

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-12** Implement avoidance and minimization measures for fish and aquatic organisms. (See full description under discussion for Impact B-12)
- B-24** Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures. A qualified biologist shall conduct focused surveys for southwestern pond turtle in the area of Project crossings, including access and spur roads, at Amargosa Creek, Big Tujunga Creek (Segment 6), Alder Creek, Rio Hondo Substation, Whittier Narrows Recreation Area, Aliso Creek, and Tonner Creek. Since Southwestern pond turtles were observed at the San Gabriel River (Segments 6 and 7 and West Fork/Cogswell Road) and Brea Canyon during reconnaissance surveys conducted in September 2007, the species shall be assumed present at these locations. The resume of the proposed biologists will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall also occur on access and spur roads where road crossings could affect suitable habitat for these species. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 June. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE, as appropriate, to reflect the

existing weather or stream conditions. If southwestern pond turtles are detected in or adjacent to the Project, nesting surveys shall be conducted.

Focused surveys for evidence of southwestern pond turtle nesting shall be conducted in, or adjacent to, the Project when suitable nesting habitat exists within 1,300 feet of occupied habitat in an area where Project-related ground disturbance will occur (i.e., tower sites, access/spur roads, wire setup sites, marshalling yards). If both of those conditions are met, a qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 1,300 feet of occupied habitat in which Project-related ground disturbance will occur. This area may be adjusted based on the existing topographical features on a case-by-case basis with the approval of the CPUC, FS, and/or USACE, as appropriate. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, SCE shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG, CPUC, FS (on NFS lands), and USACE (on Army Corps lands) to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without the written authorization from the CDFG and FS (on NFS lands).

A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present or assumed present. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles. If the installation of fencing is deemed necessary by the authorized biologist, one clearance survey for southwestern pond turtles shall be conducted at the time of the fence installation. Clearance surveys for southwestern pond turtles shall be conducted by the authorized biologist prior to the initiation of construction each day.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

H-1b Dry weather construction. (See full description under Hydrology, Section 3.8).

Environmental Effects of Mitigation Measure B-24

While Mitigation Measure B-24 is recommended to reduce impacts to southwestern pond turtle, this measure may adversely affect cultural resources. A Project redesign that would reroute the proposed transmission line would possibly damage any unknown cultural resources that may be located along the reroute. Such potential impacts are similar to the effects of other Project activities that may result in the unanticipated discovery of cultural resources, and would require the implementation of mitigation measures presented in Section 3.5 (Cultural Resources).

CEQA Significance Conclusion

If pond turtles are present, damage or destruction of southwestern pond turtle nesting areas would constitute a significant impact under CEQA without mitigation. Nesting areas are frequently used by

multiple individuals, and suitable nesting habitat can be limited in many areas. Destruction of southwestern pond turtle nesting areas would result in a substantial reduction in numbers of this rare species. However, implementation of Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures) would avoid damage or destruction of nesting areas or mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). Further, worker education would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) and restoration of impacted areas would occur through implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities). Impacts related to the establishment and spread of noxious weeds would be reduced through implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure B-12 (Implement avoidance and minimization measures for fish and aquatic organisms). Water quality impacts would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) and Mitigation Measure H-1b (Dry weather construction). Impacts related to fugitive dust would be reduced through implementation of Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

The two-striped garter snake is highly aquatic but may move considerable distances into upland habitats, even where permanent water is lacking. Two-striped garter snakes have been observed in riparian, freshwater marsh, coastal sage scrub, chaparral, oak woodland, and grassland habitats. Rathburn et al. (1993) found that these snakes tend to occupy streamside sites during the summer and switch to nearby upland habitats during the winter. The use of adjacent upland habitat places them at risk from clearing and grading activities associated with the proposed towers, stringing and pulling locations, helicopter staging areas, and construction of spur roads. Two-striped garter snakes were observed at various locations on the ANF during surveys in 2008.

The south coast garter snake occurs in marsh and adjacent meadow habitats. This species requires a permanent water source with well-developed riparian vegetation. South coast garter snakes forage on land or in pools away from fast-moving water. They are regarded as difficult to detect.

Within the proposed Project, these species have the potential to occur in the vicinity of perennial or nearly perennial aquatic habitat associated with a number of drainages, including Amargosa Creek, Aliso Creek, Lynx Gulch, Alder Creek, Upper Big Tujunga Creek, North Fork Mill Creek, West Fork San Gabriel River, Rio Hondo, and Tonner Creek. Two-striped garter snakes were observed in the riparian habitat by SCE biologists during the spring of 2008 at a riparian drainage in Lynx Gulch. This species has also been observed in Big Tujunga Creek. In addition, many of the small tributary drainages crossed by access roads could support these species. As discussed above under Impact B-4, construction activities and/or wet ford vehicular crossings of these drainages have the potential to result in mortality or injury of individual two-striped garter snakes and south coast garter snakes. Use of the West Fork Cogswell Road could also result in mortality from road kill.

Direct impacts due to construction activities include mortality or injury of individual two-striped garter snakes and south coast garter snakes as a result of mechanical crushing; loss of nesting, breeding or basking sites; fugitive dust; and human trampling. Other direct effects to these species include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of

vegetation; and grading tower pads, staging areas, helicopter pads, and pulling sites. Indirect effects include compaction of soils and introduction of exotic plant species. Furthermore, Project implementation may result in loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

To reduce effects of the proposed Project on two-striped garter snakes and south coast garter snakes, SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special-status species surveys, and coordinating with wildlife agencies. However, these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-25 (Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-25

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-12** Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms. (See full description under discussion for Impact B-12)
- B-25** Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures. A qualified biologist shall conduct focused surveys for two-striped garter snakes (both on and off NFS lands) and south coast garter snakes (non-NFS lands only) where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. The resume of the proposed biologists will be provided to the CPUC, FS and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE to reflect the existing weather or stream conditions. If either species is detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, the following minimization measures will be required. SCE shall retain a qualified biologist with demonstrated expertise with two-striped garter snakes and/or south coast garter snakes to monitor construction activities. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of the

two-striped garter snake and/or south coast garter snake. Clearance surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of construction each day.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

H-1b Dry weather construction. (See full description under Hydrology, Section 3.8).

CEQA Significance Conclusion

Temporary and permanent habitat losses will be less than significant because Project effects would be localized to stream crossings and riparian habitat away from crossings would not be directly impacted by Project construction. The relatively small habitat losses that will be incurred during Project construction will not result in a substantial adverse effect to these California Species of Special Concern. Although few individuals are likely to be affected at any work site, the collective injuries and mortality of these species that may occur at multiple work sites across the proposed Project could result in a substantial reduction in numbers of these rare species, constituting a significant impact. However, implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-25 (Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level (Class II).

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

The Coast Range newt requires water for breeding, but uses adjacent upland habitat extensively. It is often found where water sources dry up for the summer, and during moist conditions, can be found beneath logs, boards, rocks, and in rodent burrows. This species can also be found in drier habitats such as oak forests, chaparral, and rolling grasslands. A permanent water source is not necessary as this species needs water only during breeding. In areas where newts utilize streams, they can be found in slow-moving areas and pools.

The range of the Coast Range newt within southern California is highly fragmented; however, Coast range newts have been identified on the ANF in several of the small drainages that cross the access roads on Segment 6 near Monrovia Peak. In addition, this species is likely to occur in many of the perennial or nearly perennial aquatic habitats on the south slopes of the San Gabriel Mountains. The primary threats to this species on NFS lands include predatory non-native species, maintenance of aquatic stream flows, water quality, and illegal collecting.

Direct impacts to Coast Range newts include mechanical crushing or road kill during construction, human trampling, loss of breeding sites due to water quality degradation, fugitive dust, and loss of foraging habitat. Indirect impacts include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of vegetation; and grading tower pads, staging areas, helicopter pads, roads, and pulling sites. Other indirect effects include compaction of soils and introduction of exotic plant

species. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

Construction activities occurring within one mile of Lynx Gulch, drainages within Monrovia Canyon, Big Tujunga Creek, North Fork Mill Creek, and West Fork San Gabriel River, or wet ford vehicular crossings of those drainages have the potential to result in mortality or injury of Coast Range newts. The coast range newt is a slow-moving cryptic animal, which makes it vulnerable to mechanical crushing through trampling and the use of access roads. See Impact B-4 for a complete discussion of the impacts associated with the construction and use of access and spur roads. Coast range newt can also be subject to mortality through the clearing and grubbing of vegetation, if present. Degradation of water quality can preclude breeding. Furthermore, Project implementation may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat due to disturbance from construction activities. To reduce effects of the proposed Project SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special-status species surveys, and coordinating with wildlife agencies. However, these APMs lack specificity and clearly defined monitoring requirements. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-26

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-26** Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures. A qualified biologist shall conduct focused surveys for Coast Range newt in suitable habitat on non-NFS lands, including Eaton Wash, Brea Canyon, and Tonner Creek. In addition, all tributary drainages that support habitat for this species shall be inspected if they are subject to Project disturbance. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. If Coast Range newts are detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, no work shall be authorized within one mile of the occupied active drainage channel and no vehicular crossings at fords of those channels shall be authorized until the biologist has inspected and cleared these areas.

SCE shall retain a qualified biologist with demonstrated expertise with Coast Range newts to monitor construction activities and assist SCE in the implementation of the monitoring program. The resume of the proposed biologist will be provided to the CPUC for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be

referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of Coast Range newt. Clearance surveys for Coast Range newts shall be conducted by the authorized biologist prior to the initiation of construction each day.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

H-1b Dry weather construction. (See full description under Hydrology, Section 3.8).

CEQA Significance Conclusion

Temporary and permanent habitat losses at individual work sites will be minor because suitable upland habitat is abundant throughout the proposed Project in locations where the Coast Range newt may occur, and the relatively small habitat losses that will be incurred during Project construction will not result in a substantial adverse effect to this California Species of Special Concern at a given location. While SCE will implement APMs BIO-1 through BIO-7 (Table 3.4-16) as part of the proposed Project, if present, injury or mortality to a substantial number of individuals of this California species of special concern would constitute a significant impact. While the impacts to this species at individual work sites would be minor, the collective injuries and mortality of this species that may occur at multiple work sites across the proposed Project are significant and could result in a substantial reduction in numbers of this rare species. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality if present, thereby reducing impacts to a less-than-significant level (Class II).

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.

Several other special-status reptiles and amphibians could be affected by the proposed Project. These include the following terrestrial California Species of Special Concern and FS Sensitive species:

- San Gabriel Mountains slender salamander (*Batrachoseps gabrieli*)
- Western spadefoot (*Spea hammondi*)
- San Diego horned lizard (*Phrynosoma coronatum blainvillii*)
- California horned lizard (*Phrynosoma coronatum frontale*)
- Silvery legless lizard (*Anniella pulchra pulchra*)
- Orange-throated whiptail (*Aspidoscelis hyperythra*)
- Coastal rosy boa (*Charina trivirgata*)
- San Bernardino ringneck snake (*Diaophis punctatus modestus*)
- San Bernardino mountain kingsnake (*Lampropeltis zonata parvirubra*)
- Coast patch-nosed snake (*Salvadora hexalepis virgultea*)

- Northern red diamond rattlesnake (*Crotalus ruber ruber*)

Several of these species, including San Bernardino mountain kingsnake and an undetermined subspecies of the coast horned lizard, were detected during surveys in 2008 on the ANF. The San Bernardino ringneck snake, Northern red diamond rattlesnake, and Western spadefoot toad are known to occur within the Puente Hills Landfill Native Habitat Preservation Authority lands. Given the ecology of these species, and their cryptic nature it is likely that some or all of the species identified above may occur in the Project area. Hereafter, these species will be referred to collectively as special-status terrestrial herpetofauna. The special-status terrestrial herpetofauna potentially present in the Project area would all be subject to similar types of impacts. Direct impacts include being hit by vehicles on access roads; mechanical crushing during tower site preparation, grading of spur roads, and preparation of staging and stringing/pulling locations; fugitive dust; and general disturbance due to increased human activity. See Impact B-4 for a complete discussion of the impacts of the construction and use of access and spur roads on wildlife. Furthermore, Project implementation may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during ground-disturbing Project activities in undeveloped upland habitats and in some developed areas throughout the proposed Project. Indirect impacts to these species include compaction of soils and the introduction of exotic plant species. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

To reduce effects of the proposed Project on small reptiles or amphibians SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special-status species surveys, and coordinating with wildlife agencies. However, as previously described these APMs lack specificity and clearly defined monitoring requirements. Therefore to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-27

- B-1a Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)
- B-1b Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)
- B-3a Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)
- B-27 Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna.** A qualified biologist with demonstrated expertise with special-status terrestrial herpetofauna shall monitor all construction activities and assist SCE in the implementation of the monitoring efforts. The resume of the proposed biologist will be provided to the CPUC, USACE, and FS (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within

habitat that supports populations of the special-status terrestrial herpetofauna. Any special-status terrestrial herpetofauna found within a Project impact area shall be salvaged by the authorized biologist and relocated to suitable habitat outside the impact area. If the installation of exclusion fencing is deemed necessary by the authorized biologist, the authorized biologist will direct the installation of the fence. Clearance surveys for special-status herpetofauna shall be conducted by the authorized biologist prior to the initiation of construction each day.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Temporary and permanent habitat losses will be less than significant because suitable upland habitat is abundant throughout the proposed Project in locations where special-status terrestrial herpetofauna may occur, and the relatively small habitat losses that will be incurred during Project construction will not result in a substantial adverse effect to these California Species of Special Concern and/or FS Sensitive species. While SCE will implement APMs BIO-1 through BIO-7 (Table 3.4-16) as part of the proposed Project, injury or mortality to a substantial number of individuals of these California Species of Special Concern and/or FS Sensitive species would constitute a significant impact. Although the level of injury or mortality that may occur at individual work sites is unlikely to result in significant impacts to special-status terrestrial herpetofauna, the collective injuries and mortality of this set of species that may occur at multiple work sites across the proposed Project are significant and could result in a substantial reduction in numbers of these rare species. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality, thereby reducing potential impacts to a less-than-significant level (Class II).

Special-Status Birds

Impact B-28: The Project would disturb wintering mountain plovers.

Mountain plovers nest in the Great Plains but winter in portions of Central California, including the Antelope Valley. In the Project area, this species is known to winter in the Northern Region where they forage and roost mainly in recently tilled agricultural fields, although they are also known to roost in recently graded road beds. The proposed Project will affect approximately 24 acres of agriculture scattered along Segment 4 in the Northern Region. Of this acreage, an unknown portion would be recently tilled during the time of year (mid-October to mid-February) in which mountain plovers may be present.

Direct impacts due to construction activities, such as clearing and grading and increased human presence during this period, may temporarily disturb wintering flocks and force individuals to use suboptimal foraging habitat. However, suitable foraging habitat is regionally abundant in the Antelope Valley and Project implementation would not substantially reduce habitat available for this species, restrict its range, or cause its regional populations to drop below self-sustaining levels. It is also possible for the maintenance and/or improvement of access roads in the region to introduce new roosting habitat, although the amount of habitat this would provide would be negligible compared to what is regionally available. Indirect impacts to this species include the loss of habitat due to the establishment of noxious weeds and

the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include electrocution or collision with transmission lines (see Impacts B-20 and B-21) and disturbance of birds due to the presence of maintenance personnel. Because of the wide availability of habitat in the region and the relatively small amount of habitat that would be impacted by the proposed Project, impacts to wintering mountain plovers would not be substantial.

CEQA Significance Conclusion

Because the total acreage of impacted habitat is small compared to what is available regionally, and implementation of the proposed Project would not restrict the range of the species, impacts to wintering mountain plovers resulting from construction disturbance would be less than significant (Class III).

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

The burrowing owl, a CDFG Species of Special Concern, has been observed within the proposed Project area during reconnaissance-level surveys. Burrowing owls are known from the Puente Hills Landfill Native Habitat Preservation Authority, and there are several CNDDDB records within, or in the vicinity of, the proposed Project. Burrow surveys conducted by SCE in March and August through November 2007 identified one burrowing owl and occupied habitat in the northern portion of Segment 6, as well as occupied habitat along Segment 8 near Cucamonga Creek. Suitable habitat exists along Segments 10, 4, 5, 6, 7, and 8. Burrowing owls can occur wherever there are natural or manmade burrows, such as ground squirrel burrows, drainage pipes, and rural road berms. This species is not known to nest on NFS lands, although few may occur along the lower margins of the forests where they come in contact with valleys that abut NFS lands. Management of NFS lands does not significantly influence the conservation status of this species given its range and habitat requirements (Stephenson and Calcarone, 1999).

Direct impacts to burrowing owls as a result of construction activities for the proposed Project would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. Operational impacts include increased human presence from maintenance personnel that would flush or otherwise disturb burrowing owls.

If burrowing owls are present within a construction zone, or adjacent to such an area, disturbance could destroy occupied burrows or cause the owls to abandon burrows. Construction during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The loss of occupied burrowing owl habitat (habitat known to have been occupied by owls during the nesting season within the past three years) or reductions in the number of this rare species, directly or indirectly through nest abandonment or reproductive suppression, would constitute an adverse impact. Furthermore, raptors, including owls and their nests, are protected under both federal and State laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.5.

To reduce effects of the proposed Project on burrowing owls SCE would implement APMs BIO-2 and BIO-4 through BIO-6; however, these measures do not specifically address impacts to owls. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing

owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of these measures would reduce or avoid loss of occupied burrows for burrowing owl.

Mitigation Measures for Impact B-29

B-1a Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)

B-1b Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)

B-3a Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)

B-29 Implement CDFG protocol for burrowing owls. In conformance with federal and State regulations regarding the protection of raptors, a habitat assessment in accordance with CDFG protocol for burrowing owls (CBOC, 1993) shall be completed on non-NFS lands prior to the start of construction. Burrowing owl habitat within the Project area and within a 500-foot buffer zone shall be assessed (“Assessment Area”). If the habitat assessment concludes that the Assessment Area lacks suitable burrowing owl habitat, no additional action is required. However, if suitable habitat is located on the Assessment Area, all ground squirrel colonies shall be mapped at an appropriate scale, and the following mitigation measures shall be implemented:

- In conformance with federal and State regulations regarding the protection of raptors, a pre-construction survey for burrowing owls, in conformance with CDFG protocol, consisting of three site visits, shall be completed no more than 30 days prior to the start of construction within suitable habitat at the Project site(s) and buffer zone(s).
- Occupied burrows shall not be disturbed during the nesting season (1 February through 31 August) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction.
- Unless otherwise authorized by CDFG, a 250-foot buffer, within which no activity will be permissible, will be maintained between Project activities and nesting burrowing owls during the nesting season. This protected area will remain in effect until 31 August or at CDFG’s discretion and based upon monitoring evidence, until the young owls are foraging independently.
- If accidental take (disturbance, injury, or death of owls) occurs, the CDFG/CPUC/FS/USACE lead monitor will be notified immediately.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could substantially reduce the number or restrict the range of burrowing owls through loss of habitat, direct take, or disturbance during the breeding season that causes nest abandonment or reproductive suppression, resulting in significant impacts without mitigation. However, implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-29 (Implement CDFG protocol for burrowing owls), B-3a (Prepare and implement a Weed Control Plan), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

California spotted owl is a FS Sensitive species and is known to be present on the ANF within portions of Segments 6 and 11 of the proposed Project, where they primarily utilize bigcone Douglas fir-canyon oak forest and canyon oak forest. Specifically, spotted owl Protected Activity Centers (PACs) have been identified near Mount Gleason Road near one of the proposed helicopter staging areas; south of Big Tujunga Creek along Big Tujunga Road; and at numerous locations along the primary access road (Shortcut trail 2N23). This road runs south from State Highway 2 to portions of Segment 6 just west of the San Gabriel Wilderness Area. This area supports the largest concentrations of owls and their habitat within the proposed Transmission Line ROW. In addition, some of the towers in this area may require helicopter construction techniques for demolition and erection. A helicopter staging area is also proposed for this area.

Direct effects to spotted owls would be similar to those described for nesting birds (Impact B-5). These effects would include the direct removal of habitat including possible nest trees and foraging areas; noise from human disturbance and construction equipment; fugitive dust; and vehicle travel along the access and spur roads that occur in the Project area.

Indirect effects would also be similar to those described for nesting birds and would include the degradation of foraging or nesting habitat, the spread of invasive weeds, and increased human disturbance as new areas of the forest would be accessible to recreationists.

Data collected as of 2008 indicate there are approximately 14 areas mapped as occupied or potential spotted owl habitat in or adjacent to the proposed Project or within the 2.5 mile helicopter buffer area. In addition, some of the line or proposed access roads may occur within these areas. The Project would likely occur within the territorial range of one or more spotted owls. On the ANF these territories can vary in size based on site-specific topography, prey density, and access to suitable nest trees. In some areas owls may occupy closely adjoining territories.

Construction within occupied habitat or immediately adjacent to occupied habitat during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. In particular, helicopter construction proposed in the vicinity of occupied spotted owl habitat, which could involve thousands of flights, would introduce a substantial amount of noise, vibration, dust, visual disturbance, and air turbulence. For the proposed Project, construction activities could include more than 9,000 trips across the forest. While not all of these occur in owl habitat, some towers would occur in or adjacent to occupied habitat. These factors could disrupt breeding activity and ultimately lead to avoidance of breeding altogether, or the failure of an already established nest. Construction would introduce noise from helicopter use, grading, improvement of spur roads, and construction of towers. Vehicle travel on the access roads would also result in dust, human activity, increased noise levels, and other anthropogenic disturbances. As the rugged terrain in many sections of the ANF limits vehicle access to many tower locations, helicopters would be required for both demolition and construction of approximately 33 towers.

The amount of suitable spotted owl habitat that will be removed by the Project is approximately 43.1 acres. In comparison, the home range requirement of a California spotted owl on the ANF ranges from 300-1200 acres, although this number can vary considerably. On other national Forests these ranges also vary. For example, Zimmerman et al. (2001) radio-tracked two pairs of spotted owls in the San Bernardino Mountains. Using four different estimators of home range size, they calculated home range sizes ranging from 519 to 1,025 acres for one pair and from 1,478 to 2,016 acres for the other.

In a worst-case scenario, the loss of 43.1 acres of suitable habitat along Segments 6 and 11 would constitute the loss of 14 percent of a home range for a single pair of spotted owls. However, it is unlikely that all of the impacts associated with one segment would occur within the territory of a single pair of owls. This loss of habitat alone spread over two segments will not contribute to a substantial loss of habitat for an owl or pair of owls. Furthermore, California spotted owls typically inhabit heterogeneous home ranges that include unsuitable habitats such as grassland and chaparral. Most of the vegetation that would be removed near spotted owl habitat consists of chaparral, which is not utilized for nesting or roosting. Patches of non-forested vegetation do not preclude owls from nesting in adjacent forests in southern California (Smith et al. 2002). However, the expansion of access roads and the grading of new spur roads would result in the removal of mature oaks, bay, and conifer trees depending on the location of the road. In addition, because California spotted owl nest sites are limited, and home range size varies greatly on the ANF, the loss of a nest tree, even outside of the breeding season, would represent an adverse effect to the species.

The greatest threat to this species on NFS lands is the loss of habitat and subsequent population loss due to large stand-replacement wildfires. As proposed, the Project would not interfere or impede any of the conservation guidelines proposed for spotted owls. Measures incorporated into the Project would minimize risk of wildland fire and the spread of invasive nonnative plants due to construction activities. Avoidance of nest sites would be achieved through the use of limited operating periods (LOP). The LOP would prohibit activities within approximately 500 feet of the nest site (0.5-mile for helicopter construction), or activity center where nest site is unknown, during the breeding season (February 1 through August 15) unless surveys confirm that California spotted owls are not nesting. Limitations on the removal of vegetation and the restoration/mitigation of disturbed habitats would minimize impacts to habitat utilized by this species.

To reduce impacts of the proposed Project SCE shall implement APMs BIO-2 and BIO-4 through BIO-6. However, these measures do not specifically address impacts to spotted owls and lack clear strategies for reducing impacts to this species. Therefore SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would be utilized to restore impacted habitat and detect nesting trees or areas where occupied habitat is present. For a discussion of construction disturbance to breeding spotted owls, see Impact B-31 (The Project would disturb nesting California spotted owls).

Mitigation Measures for Impact B-30

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-30** Conduct pre- and during construction nest surveys for spotted owls. Prior to tree removal or construction activities within bigcone Douglas fir-canyon oak forest and canyon oak forest, SCE shall have a qualified biologist conduct FS protocol surveys within suitable habitat for the California spotted owl during the breeding season (February 1 through August 15) to establish or confirm the location of nests within the Project. The resumes of the proposed biologists shall be provided to the FS and CPUC for concurrence. If nests are found during the surveys, a 500-foot disturbance-free buffer shall be established around the nests in coordination with the FS and

demarcated by fencing or flagging. Where a biological evaluation by a qualified ornithologist determines that a nest site would be shielded from planned activities by topographic or other features that would minimize disturbance, the buffer distance may be reduced. In addition, no helicopter construction will be allowed within 0.5 mile of breeding spotted owl territories. This buffer may be adjusted through consultation with the FS and CPUC.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Because nest sites are limited, the loss of a potential nest tree would be considered significant without mitigation. Mitigation Measure B-30 would require surveys for nesting California spotted owls prior to tree removal or construction activities during the breeding season, and also requires the establishment of a disturbance-free buffer zone around any identified nests. Therefore, impacts to the California spotted owl resulting from loss of occupied habitat are considered less than significant (Class II) with the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-31: The Project would disturb nesting California spotted owls.

California spotted owls are known to be present within the ANF in Segments 6 and 11 of the proposed Project (Figure 3.4-5, located in the Map & Figures Series Volume). In many areas, both access roads and tower locations cross occupied habitat including known nesting areas. Direct impacts to nesting California spotted owls could include lower reproductive success, nest abandonment, predation, and increased stress levels due to chronic noise levels, fugitive dust, vibration, and air turbulence associated with heavy equipment and helicopter operations. Other direct impacts include the loss of suitable nest trees as a result of vegetation clearing for tower pads, tower removal sites, pulling and tensioning sites, and construction, grading, and widening of new spur roads and existing access roads. Operational impacts would include electrocution or collisions with transmission lines (see Impacts B-20 and B-21) and disturbance due to increased human presence as a result of public use of new or improved spur and access roads.

Construction would introduce noise from helicopter use, grading, improvement of spur roads, and construction of towers. Vehicle travel on the access roads would also result in dust, human activity, increased noise levels, and other anthropogenic disturbances. As the rugged terrain in many sections of the ANF limits vehicle access to many tower locations, helicopters would be required for both demolition and construction of numerous towers.

Delaney et al. (1999) studied the effects of helicopter noise on Mexican spotted owls in New Mexico and found that spotted owl flushes (flight responses) increased with decreasing distance and increasing sound level. Further, they found that owls flushed more in response to chain saw noise than helicopter noise. However, they note that helicopters would have elicited a greater response from owls if the exposure times were increased through slow maneuvers such as hovering, which would occur during construction of the proposed Project. Owl flushing rates were the same in the breeding season and the non-breeding season, although owls did not flush when chicks were in the nest. Finally, the authors found no significant difference in reproductive success between owls exposed to helicopter and chain saw noise and those who were not exposed to these noise sources, but the population sizes were small enough that the authors may

not have been able to detect an effect on reproduction. However, flushed owls are likely more prone to predation, stress, and repeated activity during the breeding season that could lower reproductive success. Another study by Tempel and Gutierrez (2003) used fecal corticosterone (a stress hormone) as a measure of physiological stress response in California spotted owls exposed to chain saw noise. They found no detectable increase in fecal corticosterone levels in owls exposed to a chain saw operating 100 meters away. However, they note that chronic and intense noise such as timber harvest and road construction was not examined during the study and may lead to increased stress response in owls. While these studies suggest that spotted owls can tolerate some degree of anthropogenic noise disturbance, the construction of the proposed Project would introduce chronic noise sources that could be nearer to breeding and non-breeding owls than the noise sources in these studies.

Construction within occupied habitat or immediately adjacent to occupied habitat during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. In particular, helicopter construction proposed in the vicinity of occupied spotted owl habitat would introduce a substantial amount of noise, vibration, dust, visual disturbance, and air turbulence. These factors could disrupt breeding activity and ultimately lead to avoidance of breeding altogether, or the failure of an already established nest. Noise and human disturbance impacts to spotted owls would be largely the same as those described for riparian birds (see Impact B-15) and include displacement from territories, interference with breeding, and abandonment of nests. To reduce impacts of the proposed Project SCE shall implement Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measures for Impact B-31

- B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)
- B-30** **Conduct pre- and during construction nest surveys for spotted owls.** (See full description under discussion for Impact B-30)
- AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation could result in disturbance that causes California spotted owls to abandon their nest and/or result in the loss of reproductive effort, resulting in significant impacts without mitigation. In particular, the use of helicopters for Project construction would introduce disturbance that could cause nest failure. However, implementation of APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Several passerine bird species listed as “species of special concern” by the CDFG, including vermilion flycatcher, loggerhead shrike, yellow warbler, yellow-breasted chat, summer tanager, and tricolored blackbird, have been identified as either nesting or potentially nesting within the proposed Project.

Direct, indirect, and operational impacts to nesting birds would be the same as described for listed riparian birds (see Impact B-15) and spotted owls (see Impacts B-30 and B-31). Ground-disturbing activity, including tower pad preparation, stringing and pulling locations, and the grading of access roads, has the potential to disturb vegetation utilized by nesting birds. The construction and use of access roads could also disturb nesting birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Noise and human disturbance impacts to special status birds would be largely the same as those described for riparian birds (see Impact B-15) and spotted owls (see Impacts B-30 and B-31) and could result in the displacement from territories, interference with breeding, and abandonment of nests. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Increased noise from helicopter construction could also adversely impact nesting birds, particularly where helicopters are required to hover in or adjacent to riparian areas for extended periods of time. Breeding birds and other wildlife may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality.

While Project implementation would not substantially reduce habitat available for these species, restrict their range, or cause their regional populations to drop below self-sustaining levels, the direct or indirect loss of nests through physical removal, nest abandonment, or reproductive suppression of these regionally rare species would violate the MBTA and would constitute an adverse impact without mitigation. To reduce the effects of the proposed Project these species SCE would implement the same measures utilized for both common nesting birds and riparian species. This would include the replacement of lost habitat functions through the restoration of habitat, construction monitoring, pre-construction surveys, and the avoidance of nest locations. Therefore, to further reduce effects of the proposed Project on nesting birds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Many special-status birds on NFS lands will also benefit from the limited operating periods that would be in place to reduce effects of the Project on spotted owls.

Mitigation Measures for Impact B-32

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-5** Conduct pre-construction surveys and monitoring for breeding birds. (See full description under discussion for Impact B-5)
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Construction disturbance including the use of helicopters during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort would constitute a significant impact and violate the MBTA. However, implementation of APMs BIO-4 through BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II).

Special-Status Mammals

The proposed Project area supports a variety of special-status mammal species including several species of bats, small rodents, larger carnivores, and the ringtail. Some of the species have widespread distributions such as the black-tailed jackrabbit; whereas other species including bats, pocket mice, and the ringtail occur in very limited areas and are often reliant on specific habitat types, such as rocky canyons in riparian areas for the ringtail or caves and other structures for many species of bats.

Impacts to unique mammals would be similar to those described for common wildlife (see Impact B-4). Wide-ranging species such as black-tailed jackrabbit are not likely to be affected by the proposed Project. These species are able to quickly egress an area and the short duration of construction at any single point would not result in adverse impacts to the species; however, other species may be affected by the proposed Project. These are discussed in greater detail below.

Impact B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.

Pallid bat, Townsend's big-eared bat, western red bat, hoary bat, spotted bat, western mastiff bat, big free-tailed bat, and pocketed free-tailed bat are all California Species of Special Concern that have the potential to occur within the proposed Project. Pallid bat, Townsend's big-eared bat, and western red bat are also FS Sensitive species. Several of these species, most notably the pallid bat, have CNDDDB and other records of occurrence within the proposed Project. Five pallid bats were located in artificial "bat houses" under a bridge about 325 yards northwest of Alternative 6 helicopter site 3 near Aliso Canyon. Furthermore, the Western red bat, pallid bat, pocketed free-tailed bat and Western mastiff bat are known to occur within the Puente Hills Landfill Native Habitat Preservation Authority lands. The proposed Project area includes numerous locations that constitute suitable bat foraging and roosting habitat, including rock outcroppings, mine shafts, hollow trees, dense forests, and abandoned water tanks. The steep rocky canyon and dense riparian forest at the West Fork of the San Gabriel River located along the West Fork Cogswell Road provides many opportunities for both foraging and roosting.

The decline of bat populations is often due to roost site disturbance, loss of foraging habitat, and loss of roost sites. Activities that have been documented to impact bats include livestock grazing, vegetation treatments, and water reclamation that could lead to loss of a water source or riparian habitat. Due to their sensitivity to human disturbance, roost protection is vitally important for bats. Roost protection measures may include seasonal use restrictions or physical closures as necessary.

Depending on the species bats may be found in a number of areas along the proposed Project alignment. For example, the Townsend's big-eared bat occurs in a variety of habitats and roosts in the open, hanging

from rock walls and ceilings. During spring and summer, females establish maternity colonies in the warm parts of caves, mines, and buildings. Other species utilize large trees to roost in. The proximity of good foraging habitat, which includes the presence of water, appears to be a determining factor in roost selection for many species.

Direct impacts to these species include mortality of individuals during construction activities, permanent loss of habitat due to construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment).

Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The construction and use of access roads could also disturb bats. This may be higher in areas such as the West Fork Cogswell Road, Big Tujunga Canyon, or along portions of the Shortcut trail. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Construction-related activities, which would generate noise, traffic, dust, and diesel fumes, could result in the direct loss of roosting habitat and subsequent mortality to adult bats or pups if any bats were present in the proposed Project area. Indirect effects could include increased traffic, dust, and human presence in the Project area that could result in bats abandoning their roosts or maternal colonies. For example, Townsend's big-eared bat is known to abandon young when disturbed. Impacts to bats during operation of the proposed Project include disturbance by vehicles and individuals utilizing new or improved access and spur roads, corona noise (see Impact B-41), the spread of noxious weeds, and the potential for collision with transmission lines (see Impact B-34).

The construction and operation of the transmission line would not result in a barrier for, or restrict the range of, special-status bat species. However, the construction activities described above could result in direct impacts to these species. To reduce effects of the proposed Project on bats SCE shall implement a variety of measures designed to avoid roost colonies, limit travel at riparian areas during dusk or early morning, reduce fugitive dust, and provide alternative roost sites if bat roosts are affected by construction activities. Although SCE has committed to implementing APMs BIO-1, BIO-4 and BIO-6, these measures do not provide specific language regarding the protection of bats. Therefore, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts).

Mitigation Measures for Impact B-33

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)

B-33a Maternity colony or hibernaculum surveys for roosting bats. SCE shall conduct a pre-activity (e.g., vegetation removal, grading) survey for roosting bats within 15 days prior to any grading of rocky outcrops or removal of trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities).

SCE shall also conduct surveys for roosting bats during the maternity season (1 March to 31 July) prior to any construction activities. Trees and rocky outcrops shall be surveyed by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). The resume of the biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities.

If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the Project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFG/FS/USACE approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of the CDFG, FS, USACE (as appropriate), and CPUC that there are alternative roost sites used by the maternity colony and young are not present then no further action is required, and it will not be necessary to provide mitigation roosting habitat (i.e., Mitigation Measure B-33b would not apply although Mitigation Measure B-33c would still apply). However, if there are no alternative roosts sites used by the maternity colony, Mitigation Measure B-33b is required. If no active roosts are found, then no further action is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then Mitigation Measure B-33b is not necessary, but Mitigation Measure B-33c is required.

B-33b Provision of substitute roosting bat habitat. If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. By making the roosting habitat available prior to eviction (Mitigation Measure B-33c), the colony will have a better chance of finding and using the roost. Large concrete walls (e.g., on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

B-33c Exclude bats prior to demolition of roosts. If non-breeding bat hibernacula are found in trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). The resume of the bat biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities. In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

If an active maternity roost is located in an area to be impacted by the Project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Construction activities associated with Project implementation could substantially reduce active maternity roosts for special-status bat species. If active hibernacula and maternity roosts cannot be avoided, impacts would be significant. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II).

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

Special-status and FS Sensitive bat species with the potential to occur in the proposed Project include the pallid bat, Townsend's big-eared bat, western red bat, hoary bat, spotted bat, western mastiff bat, big free-tailed bat, and pocketed free-tailed bat. A potential impact to these species resulting from Project implementation is the direct loss of individuals from fatal strikes with transmission lines. Many studies have quantified bird strikes with transmission lines, but analogous information on bats is very limited (Manville 2005).

The pallid bat and Townsend's big-eared bat generally fly too low while foraging to be impacted by additional transmission lines; the number of fatal strikes for these species is expected to be very low and not significant. In addition, pallid bats primarily forage on the ground for terrestrial insects such as scorpions and beetles. The western mastiff bat, big free-tailed bat, pocketed free-tailed bat, spotted bat, hoary bat, and western red bat all fly high enough to potentially be impacted by additional transmission lines. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inch in size (Vaughan and Vaughan, 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inch in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species.

CEQA Significance Conclusion

Line strikes as a result of Project implementation will not substantially reduce the number of special-status bat species, cause their populations to drop below self-sustaining levels, restrict their range, or threaten to eliminate their populations. Therefore, impacts to special-status bat species resulting from transmission line strikes are less than significant (Class III).

Impact B-35: The Project would result in mortality of, and loss of habitat for, special-status mammals.

The Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit are all California Species of Special Concern that have the potential to occur along the proposed Project (the Los Angeles pocket mouse and Tehachapi pocket mouse are also FS Sensitive species). The Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, and Tulare grasshopper mouse could occur within marginal habitat within the proposed Project area, but the proposed Project will not eliminate suitable habitat for these species within their current geographic range (Table 3.4-22). The Northwestern San Diego pocket mouse, Southern grasshopper mouse, and San Diego black-tailed jackrabbit occur within the proposed Project area, and the proposed Project will eliminate suitable habitat for these species. However, the amount of suitable habitat that will be impacted by the Project is small (Table 3.4-22) relative to their geographic range and the availability of suitable habitat for these species within the San Gabriel Mountains (36,455 acres of coastal sage scrub; 253,302 acres of mixed chaparral; and 11,177 acres of coast live oak woodland in the San Gabriel Mountains; Stephenson and Calcarone 1999), and the Chino and Puente Hills (more than 20,000 acres of coastal sage scrub, California annual grassland, coast live oak woodland, and California walnut woodland; Cooper 2000, LSA 2007). Therefore, Project implementation will not result in a significant loss of suitable habitat for these species.

Species	Suitable Habitat	Location of Suitable Habitat	Acres of Suitable Habitat Impacted
Los Angeles pocket mouse	Coastal sage scrub and grassland with fine sandy soils	East of Segments 6 & 11	0
Tehachapi pocket mouse	Joshua tree woodland, pinyon-juniper woodland, oak woodlands, and grasslands in friable, sandy soil	West of Segment 4	0
San Joaquin pocket mouse	Grasslands and desert scrub on fine or sandy soils	West of Segments 4 & 10	0
Northwestern San Diego pocket mouse	Coastal sage scrub and grasslands in moderately gravelly or rocky substrates and sandy-loam to loam soils	Chino Hills of Segment 8	32.2
Southern grasshopper mouse	Grassland and sparse coastal sage scrub habitats	Chino Hills of Segment 8	35.6
Tulare grasshopper mouse	Alkali desert scrub, succulent shrub, arid grassland, and desert wash or riparian communities	West of Segment 10	0
San Diego black-tailed jackrabbit	Open grasslands or sparse coastal scrub	Foothills of San Gabriel Mountains (Segments 6, 7, 11) and Chino and Puente Hills (Segment 8)	51.8

Direct impacts to special-status mammals are similar to those described for other small, fossorial animals and include mechanical crushing by vehicles and construction equipment, trampling, dust, and loss of habitat. See Impact B-4 for a complete discussion of the impacts of the use and construction of access roads. Construction disturbance can also result in the flushing of small animals from refugia which increases the predation risk for small rodents. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. Operational impacts include

risk of road kill on access and spur roads by the public and maintenance personnel, the spread of noxious weeds, and disturbance due to increased human presence. However, these impacts will not substantially reduce regional populations below self-sustaining levels or restrict the range of these species. SCE indicates that APM BIO-1 and APM BIO-5 would be implemented, which would include preconstruction clearance surveys and the use of biological monitors during construction of the proposed Project. In addition, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize impacts to special-status mammal species.

Mitigation Measures for Impact B-35

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

The area of suitable habitat for the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit potentially impacted by the Project would be quite small relative to the overall population size and range of these species. However, these animals would still be subject to potential mortality from construction activities. Nonetheless Project implementation would not substantially reduce available habitat, restrict the range, or cause regional populations to drop below self-sustaining levels. In addition, the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species to less-than-significant levels (Class II).

Impact B-36: The Project would result in mortality of San Diego desert woodrats.

The San Diego desert woodrat is a California Species of Special Concern that has the potential to occur along the proposed Project. This species is known from the Puente Hills Landfill Native Habitat Preservation Authority lands. Direct impacts from construction activities would include the mortality of individual San Diego desert woodrats or disturbance (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment) to occupied desert woodrat nests. Construction and use of access roads would also result in impacts to this species. See Impact B-4 for a full discussion of the impacts of access roads on wildlife. The Project would result in the loss of 80.2 acres of suitable habitat for San Diego desert woodrat. Indirect impacts to San Diego desert woodrats include the spread of

noxious weeds that would degrade habitat quality and alteration of soils. Operational impacts would include disturbance to woodrat nests, clearing and trimming of vegetation during maintenance activities, the spread of noxious weeds, and disturbance due to use of new or improved access and spur roads by the public and maintenance personnel.

Construction impacts for the San Diego desert woodrat would be within the ANF and Puente and Chino Hills, where this species was frequently captured in recent surveys (LSA 2005). Woodrat nests were also frequently observed during reconnaissance surveys in 2007 and 2008 of the proposed Project in the Puente and Chino Hills and portions of the ANF.

The primary mechanism for reducing impacts to this species would be through the identification of nests, avoidance where possible, or through the passive relocation of the animals prior to ground disturbance. To accomplish this SCE shall implement APMs BIO-1 and BIO-4 through BIO-6 which provide for monitoring and pre-construction surveys. While these measures would require surveys for special-status species there is no specific language regarding this species. Therefore to reduce effects of the proposed Project SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measure for Impact B-36

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-36** Conduct focused surveys for San Diego desert woodrats and passively relocate. SCE shall implement pre-construction surveys for the San Diego desert woodrat in suitable habitats within the Chino Hills and Puente Hills. If present, active woodrat nests will be flagged and ground-disturbing activities shall be avoided within a minimum of 10 feet surrounding each active nest. If avoidance is not possible, SCE will take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest, (2) each occupied nest will then be disturbed by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off-site, and (3) the nest sticks shall be removed from the Project site and piled at the base of a nearby hardwood tree (preferably a coast live oak or California walnut). Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests. SCE shall document all woodrat nests moved and provide a written report to the CPUC, State Parks (for activities in CHSP associated with Alternative 4), USACE (as appropriate), and CDFG. The resumes of the proposed biologists shall be provided to the CPUC, State Parks, and USACE (as appropriate) for concurrence.
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation would not substantially reduce available habitat or restrict the range of the San Diego desert woodrat. However, construction activities could substantially reduce regional populations of this species in the Chino and Puente Hills should they occur at the proposed tower locations. To ensure impacts of the Project are reduced to a less-than-significant level (Class II), SCE will implement APMs BIO-1 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-37: The Project would result in mortality of, and loss of habitat for, the ringtail.

Ringtail, a fully protected species in California, has the potential to occur in chaparral, oak woodlands, bigcone Douglas fir and canyon oak forest, or riparian habitats within canyons of the proposed Project; especially on steeper south or west-facing slopes with oaks or other hardwoods present (Grinnell et al., 1937; Vaughan, 1954; Campbell, 2004). In the San Gabriel Mountains, Vaughan (1954) reported that ringtails occurred in canyons in the chaparral belt. Ringtails are similar to raccoons in that they are often found within 0.6 mile (1 kilometer) of a permanent water source (Zeiner and others, 1990). Ringtails have been observed in Big Tujunga Canyon in the vicinity of the Project area. Areas within the proposed Project that contain suitable habitats include Amargosa Creek, Upper Big Tujunga Creek, Santa Anita Canyon, San Gabriel River, Monte Cristo Creek, Mill Creek, Saucer Branch/Millard Canyon, and Tonner Canyon. In addition, many of the small riparian drainages that are crossed by access roads on the ANF support suitable ringtail habitat. The dense riparian forest and adjacent rocky canyons that occur at the West Fork of the San Gabriel River provide excellent habitat for this species. The amount of habitat impacted by the proposed Project will be small (approximately 7.1 acres of riparian and 2 acres of upland habitats along Segments 6, 7, 8, and 11) relative to the home range requirement of a ringtail, which is between 50 and 336 acres (Poglayen-Neuwall and Toweill, 1988). This small loss of habitat spread over four segments will not contribute to a significant loss of habitat for ringtail, and construction and operation of the transmission lines would not physically divide territories or result in a barrier for ringtail. The degradation of riparian areas has been identified by the ANF as a potential threat to the species on NFS lands (Stephenson and Calcarone, 1999). However, the total area of riparian habitat affected by the Project is low and it is not likely to make this species highly vulnerable to adverse effects from land use activities occurring on NFS lands. The most likely cause of disturbance to this species is through the disruption of breeding or loss of denning areas if present.

Direct impacts due to construction activities would include mortality of individual ringtail or disturbance of ringtail maternity dens during the pup-rearing season (1 May to 1 September). The construction and use of access roads in riparian areas could also disturb denning ringtails. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Dens may be in a hollow tree, a rock pile, a crevice in a cliff, or in abandoned burrows or woodrat nests (Ingles, 1965; Zeiner and others, 1990). Ringtails change dens frequently and an individual rarely spends more than three days in the same shelter. However, females with young remain in the same den for 10 to 20 days after giving birth. After that time dens may be changed daily (Poglayen-Neuwall and Toweill, 1988). Construction noise, dust, human presence, or ground disturbance could result in the abandonment of these nest sites or result in mortality of juvenile animals. Indirect impacts to ringtail could include the spread of noxious weeds that would degrade habitat quality, degradation of water quality due to siltation, and alteration of soils. Operational

impacts would include disturbance to ringtail dens, clearing and trimming of vegetation during maintenance activities, the spread of noxious weeds, and disturbance due to use of new or improved access and spur roads by the public and maintenance personnel.

This is a California fully protected species and direct loss of this species is prohibited. Construction activities that occur in areas potentially supporting this species would require the completion of preconstruction surveys to evaluate the potential presence of this species in or adjacent to the proposed work area. If present, work would be redirected to adjacent areas. With the exception of the denning period this species is highly motile and may leave the work area undetected. However, as this species is primarily nocturnal (although this species has been observed during the day in remote canyons) there is some potential to disturb denning or resting animals. To reduce these effects on ringtail SCE would implement APMs BIO-1, BIO-4, and BIO-6 that provide measures to survey for wildlife and educate workers regarding the sensitivity of wildlife. However, there are no specific measures addressing effects to ringtails. To ensure the Project does not affect this species SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measure for Impact B-37

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-37** Conduct focused surveys for ringtail and passively relocate during the non-breeding season. SCE shall conduct pre-construction ringtail surveys on non-NFS lands at sites with suitable denning habitat within the Project area. This includes at a minimum Amargosa Creek, Santa Anita Canyon, San Gabriel River, and Tonner Canyon within 200 feet of any ground disturbing activity. SCE shall provide a list to the CPUC and State Parks (for activities in CHSP associated with Alternative 4) of the proposed survey areas for approval. Occupied dens will be flagged and ground-disturbing activities within 200 feet will be avoided. If occupied dens are found in the Project area and avoidance is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist (as determined by a Memorandum of Understanding with CDFG). The qualified biologist shall facilitate the removal of ringtail by delaying construction activity for a minimum 20 days during the early pup-rearing season (1 May to 15 June) and a minimum of 5 days during the rest of the year (16 June to 30 April). If the qualified biologist documents ringtail voluntarily vacating the den site during this period, then construction may begin within 7 days following this observation. If the ringtails do not vacate the den voluntarily within the required period, then the qualified biologist will coordinate with CDFG to passively relocate ringtail (excluding the early pup-rearing season: 1 May to 15 June). All activities that involve the ringtail shall be documented and reported to the CDFG, State Parks (as appropriate), and CPUC within 30 days of the activity.

AQ-1a Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

The ringtail is a fully protected species and uncommon in southern California. Therefore, the destruction or elimination of active dens during construction activities is considered a significant impact. However, these impacts would be reduced to a less-than-significant level (Class II) with implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-38: The Project would result in mortality of American badgers.

American badgers occur in the drier, open habitats with friable soil within the proposed Project, including grassland, desert scrub, Mojave juniper woodland and scrub, Mojave pinyon woodland, Joshua tree woodland, and herb-dominated habitats. Areas within the proposed Project that contain these suitable habitats include the Antelope Valley and Chino and Puente Hills. American badgers have been observed within the Puente Hills Landfill Native Habitat Preservation Authority lands. Foothill sections of the ANF may also support this species. A combined total of approximately 684 acres of these habitats will be impacted along Segments 4, 5, 6, 7, 8, 10 and 11. This loss of potential habitat spread over seven segments will not contribute to a significant loss of habitat for American badger, which has a large home range requirement (338 to 1,549 acres; Ziener et al., 1990) and extensive available, suitable habitat in the West Mojave Desert (5.84 million acres of desert scrub habitat and 62,986 acres of juniper woodland; BLM, 2005) and Puente and Chino Hills (more than 49,000 acres of primarily grassland habitat; Cooper, 2000). This extremely large home range size would allow any individual badger utilizing the Project site to avoid adverse impacts from the associated construction activities or habitat loss. Construction and operation of the transmission lines would not physically divide territories or result in a barrier for this species.

Direct impacts to American badger include mechanical crushing of individuals or burrows by vehicles and construction equipment, noise, dust, and loss of habitat. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. Operational impacts include risk of road kill on access and spur roads by the public and maintenance personnel, the spread of noxious weeds, and disturbance due to increased human presence. Construction activities including clearing and grading of tower sites, staging areas, and access roads could result in mortality of individual badgers or disturbance of badger maternity dens during the pup-rearing season (15 February to 1 July). See Impact B-4 for a complete discussion of the impacts of access roads on wildlife. Therefore, SCE shall implement APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badgers and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Mitigation Measure for Impact B-38

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-38** Conduct focused surveys for American badgers and passively relocate during the non-breeding season. SCE shall implement pre-construction surveys for American badger within suitable habitat on non-NFS lands. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den avoided. Maternity dens shall be avoided during pup-rearing season (15 February through 1 July) and a minimum 200-foot buffer established. Maternity dens shall be flagged for avoidance, identified on construction maps, and a biological monitor shall be present during construction.

If avoidance of a non-maternity den is not feasible, badgers shall be relocated by slowly excavating the burrow (either by hand or mechanized equipment under the direct supervision of the biologist, removing no more than 4 inches at a time) before or after the rearing season (15 February through 1 July). Any relocation of badgers shall occur only after consultation with the CDFG, USACE (as appropriate), State Parks (for activities in CHSP associated with Alternative 4), and CPUC monitor. A written report documenting the badger removal shall be provided to the CDFG, USACE (as appropriate), State Parks (as appropriate), and CPUC within 30 days of relocation.

- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)

CEQA Significance Conclusion

Project implementation would not restrict the range of or substantially reduce suitable habitat for American badger, but construction activities that result in the loss of badgers would be considered significant absent mitigation. However, impacts to the American badger would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1, BIO-4, BIO-5, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Effects on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

Specific construction-related impacts to jurisdictional waters are discussed in detail under Impact B-2 (The Project would result in the loss of desert wash or riparian habitat). SCE has indicated that all areas meeting the regulatory definition of “Waters of the U.S.” (jurisdictional waters) and wetlands as defined by Section 404 of the Clean Water Act will be spanned by the high voltage lines and that disturbance, fill, or removal of jurisdictional waters and wetlands will be avoided to the extent practicable. However, the Project ROW crosses numerous drainages that would qualify as jurisdictional waters. While SCE has

indicated that the proposed transmission lines would span these areas, many tributaries and drainages are crossed by access roads that could utilize these crossings during periods of water flow. Some of the creeks and drainages that occur in the Project area include Amargosa Creek, Oak Creek, and Cottonwood Creek in the Northern Region; Big Tujunga Creek, the San Gabriel River, and Mill Creek in the Central Region; and the San Gabriel River, the Rio Hondo, and Walnut Creek in the Southern Region. In addition to these and other perennial, ephemeral, and intermittent drainages are numerous other tributaries, unnamed drainages, gullies, and rills that are crossed by the proposed Project. In some areas these crossings would be subject to improvement or grading to ensure the safe passage of vehicles and equipment. This may involve the placement of rock or the construction of culverts. At two locations, SCE has proposed major stream crossing repairs or upgrades. This includes repairing the washed-out Falls Creek crossing at Big Tujunga, a span of over 200 feet, and major upgrades to the San Gabriel River crossing, an existing damaged concrete Arizona crossing. In addition, the maintenance of existing access roads, which includes grading the road to a minimum of 16 feet in many areas; the construction of new access and spur roads in areas above jurisdictional waters such as Mill Creek, Tujunga Reservoir, and the San Gabriel River; and the installation or replacement of culverts in and adjacent creeks and drainages could result in the discharge of fill into drainages under the jurisdiction of the USACE. Alteration of jurisdictional waters in turn could result in adverse impacts to plant and wildlife species that are dependent on these areas. See Impact B-4 for a complete discussion of the effects of the use and construction of access roads.

Direct impacts to wetland habitats would include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Most of these impacts would occur during access road improvements and heavy equipment and vehicle passage where jurisdictional waters traverse access roads. Indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to wetland habitats would be similar to indirect impacts and would primarily occur as a result of facilitated use of new or improved spur roads and access roads.

As required by law SCE would comply with the regulations regarding conducting Project activities in water bodies under the jurisdiction of the State and federal government. As such SCE would obtain required permits pursuant to Section 401 and 404 of the CWA and the State Porter-Cologne Act and CDFG Code 1602. On NFS lands SCE would comply with the Forest requirements regarding RCAs. Biological resources associated with jurisdictional habitats have been discussed in detail and mitigation has been presented to reduce or avoid effects to both plant and wildlife that may occur in these areas. In addition, SCE would implement APM BIO-3 (Obtain a Streambed Alteration Agreement) as well as APMs BIO-1, BIO-2, and BIO-4 through BIO-7, which will reduce impacts to riparian and wetland habitat. However, these measures do not provide for reporting nor do they establish specific actions to reduce the effects of the proposed Project. For these reasons, as well as the value of these resources to wildlife species, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-12 (Implement avoidance and minimization measures for fish and aquatic organisms), and AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would ensure that impacts from erosion and sedimentation that could occur during tower or road construction upslope of a jurisdictional waterway would be minimized, and would also ensure that SCE obtain all appropriate permits. Where avoidance of

impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing wetlands.

Mitigation Measures for Impact B-39

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan.
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-12** Implement avoidance and minimization measures for fish and aquatic organisms. (See full description under discussion for Impact B-12)
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8)

CEQA Significance Conclusion

As described above for riparian vegetation (Impact B-2), due to the importance of riparian communities, the ongoing loss of wetland habitat within California, and its suitability to support special-status species, any loss of these habitats associated with the proposed Project is significant. As required by law SCE would comply with the regulations regarding conducting Project activities in water bodies under the jurisdiction of the State and federal government. As such SCE would obtain required permits pursuant to Section 401 and 404 of the CWA and the State Porter-Cologne Act and CDFG Code 1602. On NFS lands SCE would comply with the Forest requirements regarding RCAs. To reduce impacts of the proposed Project to less-than-significant levels (Class II), SCE shall implement Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Interference with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

In southern California, fragmentation of the landscape has reduced much of the remaining habitat available to native species (Haas, 2000). In addition, recent studies suggest that habitat fragmentation and isolation of natural areas ultimately results in the loss of native species within those communities (Soulé et al., 1988). In the Chino Hills area data indicate that fragmentation of habitat and a reduction in useable wildlife corridors can affect the population dynamics of predators including bobcat, coyote, and mountain lions (Haas, 2000). Likewise, the Puente Hills area supports some of the last remaining wildlife habitat within the urbanized San Gabriel Valley. The amount and distribution of suitable habitat is an essential element to consider for the management of wildlife. In fact, some species require, and are often limited to, unique vegetation types for breeding or foraging.

On NFS lands, some of the management strategies regarding wildlife are to play an important regional role in maintaining large blocks of wildland habitat within one of the most highly urbanized landscapes in the United States. This includes maintaining diverse habitats of native and desired nonnative plant, fish, and animal species and protecting areas that are the only remaining habitat refugia for species imperiled by the loss or degradation of habitat off-forest.

As described in Section 3.4.2.2.4, wildlife corridors provide a variety of functions and can include habitat linkages between natural areas; provide greenbelts and refuge systems; and divert wildlife across permanent physical barriers to dispersal such as highways and dams by roadway underpasses and ramps (Hass, 2000; Simberloff et al., 1992). Generally, the accepted definition describes a wildlife corridor as a linear habitat, embedded in a dissimilar matrix that connects two or more larger blocks of habitat (Beier and Noss, 1998). Noss (1987) also suggests several potential advantages to corridors, including increased species richness and diversity, decreased probability of extinction, maintenance of genetic variation, a greater mix of habitat and successional stages, and alternative refugia from large disturbances.

The proposed Project crosses three geographically important wildlife movement areas including the high desert, the ANF, and the Puente/Chino Hills Corridor area. Each of these areas plays an important role by providing habitat, wild lands, and connectivity to other regions of southern California. Portions of the Antelope Valley act as movement corridors for both common and special-status wildlife from the Tehachapi Mountains to the ANF and Los Padres Forests. The ANF remains one of the largest non-urbanized areas adjacent to Metropolitan Los Angeles with links to regions ranging from the San Bernardino Mountains to the east to the Los Padres Mountains in the west.

Linkages and corridors facilitate regional animal movement and are generally centered around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Ridgelines that occur throughout the Project area may also serve as movement corridors depending on the topography.

With the exception of a short segment in the northern Antelope Valley, the proposed Project would not result in a new barrier to wildlife movement. Currently, the construction of the proposed Project would involve the removal and replacement of an existing line. While the line would be larger and some new access roads would be constructed, new barriers to movement would not be constructed. On both private and federal lands some of the major barriers to movement include highways such as State Route 14, Highway 2, Interstate 210, and the 605 Freeway. Large urban areas in the San Gabriel Valley, agricultural lands, and residential areas occur across the Project alignment. Due to the intermittent locations of construction activity and its temporary nature, wildlife would not be physically prevented from moving around Project equipment in the transmission corridor. During Project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers.

Aquatic Wildlife

The proposed Project would not substantially interfere with the movement of any native resident or migratory fish, reptile, or amphibian species. Native and migratory fish are limited within the proposed Project due to the seasonal nature of the creeks and drainages. However, several special-status fish species including the Santa Ana sucker, unarmored threespine stickleback, arroyo chub, and Santa Ana speckled dace occur in Big Tujunga and the San Gabriel Rivers. These species may also occur in

upstream portions of the tributary drainages to these waterbodies during seasonally wet years. Riparian habitat and portions of the streambed would be impacted at Amargosa Creek, Monte Cristo Creek, the San Gabriel River, Upper Big Tujunga Creek, Mill Creek, Aliso Creek, and many other riparian-dominated drainages during the expansion of the existing access roads. While some of these are dry for most of the year and any improvements would be conducted in compliance with State and federal law (CDFG 1602, RWQCB 401/402, USACE 404) and mitigation would be applied for minimizing potential barriers to upstream or downstream movement of fish or wildlife; it is likely that expansion of access roads in some locations would require the temporary diversion of the active stream channel. Activities that involve modification of the bed or bank of a State jurisdictional waterway would be regulated by the CDFG, Regional Board, and USACE. On NFS lands, the FS would have to approve any modification to the stream channel or bed prior to implementation. SCE would implement APM BIO-3 (Obtain a Streambed Alteration Agreement), which would contain conditions for avoiding or minimizing impacts to aquatic species. In addition, SCE would implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). Implementation of B-2 (Implement RCA Treatment Plan) would likely limit or restrict the use or expansion of some access roads during the breeding season for nesting birds and other wildlife and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would provide measures to protect aquatic species and prevent construction of barriers to movement. These measures would ensure that any activities in riparian areas do not result in an obstruction to wildlife movement.

Terrestrial Wildlife

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads could interfere with terrestrial wildlife movement during construction. As described for Impact B-4 (Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and result in wildlife mortality), clearing, grading, and helicopter noise would generate the greatest construction impacts on wildlife, especially in undisturbed portions of the ANF. Construction would affect wildlife in adjacent habitats by interfering with movement patterns or cause animals to temporarily avoid areas adjacent to the construction zone. In general, nocturnal (i.e., active at night) wildlife would be affected less by construction than diurnal (i.e., active during the day) species since construction would occur primarily during daylight hours. More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during the land clearing and grading phases associated with tower construction.

Construction activities may temporarily limit terrestrial wildlife movement at tower locations; however, the broad geographic range and habitat that occurs in many sections of the proposed Project would remain available to wildlife. Mobile wildlife would be able to respond to construction activities by moving to adjacent habitats, and as many large species move during the evening or early morning when construction activities would be limited, construction would not interfere with their movement. In addition, large sections of the proposed Project located in the Northern Region are located in developing and agricultural communities that do not support large populations of wildlife.

The construction of new transmission towers and the installation of new transmission line cables could interfere with aerial migratory movements of some birds or bats (See Impact B-40 below). However, the modification of habitat would consist of relatively small footprints and would not change the local topography to the extent that movement would be substantially impeded. Alternative movement corridors would also remain intact for the majority of wildlife species that may occur in the proposed Project area. Implementation of measures that require worker training such as Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program) and Mitigation Measure B-2 (Implement RCA Treatment Plan) would reduce impacts of the proposed Project on wildlife movement.

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

A potential impact to migrating bird and bat species resulting from Project implementation is the interference with established migratory corridors as a result of fatal collisions with transmission lines. Many studies have quantified bird strikes with transmission lines, but analogous information on bats is very limited (Manville 2005). Land bird migration in California is protracted in time and space, with migration occurring virtually throughout the year and migrants spread over a broad front with few concentration areas. In California, land bird migrants concentrate along the Pacific coast, large rivers, and desert oases; water birds concentrate along the Pacific coast and in coastal estuaries and freshwater and saline wetlands; and diurnal raptors such as hawks concentrate along the Pacific coast and coastal and interior mountain ranges. Although large numbers of migrating raptors occur along the San Gabriel Mountains, these raptors primarily follow ridgelines oriented north/south. There are few such areas in the proposed Project and none with a bottleneck that results in large concentrations of migrants. Specific impacts and mitigation associated with potential bird strikes are discussed in Impact B-21 (The Project would result in collision with overhead wires by State and/or federally protected birds.).

CEQA Significance Conclusion

There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any portion of the proposed Project (See Appendix B of the *Biological Specialist Report* [Aspen, 2008], Avian Risk Assessment). Further, bats are expected to avoid transmission lines because they can detect objects as small as 0.4 to 0.004 inch in size through echolocation (Vaughan and Vaughan, 1986), and the size of guard lines and transmission lines is typically greater than or equal to 0.5 inch in diameter (SCE, 2007). Therefore, the impact to bird and bat migratory corridors from the proposed Project would be less than significant (Class III).

Impact B-41: Corona noise would result in disturbance to wildlife.

As discussed in Section 2.3.1 (Existing Noise Conditions) of the *Noise Specialist Report* (Aspen, 2008), the most notable noise source in the immediate vicinity of the majority of the proposed route is the corona noise from the existing transmission lines. Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Audible noise from transmission lines is often masked by the background noise at locations beyond the edge of the ROW, particularly where the line runs near a source of background noise such as a freeway, creek, or river channel. The amount of corona produced by a transmission line is a function of the voltage of the line, the diameter of the conductor (or bundle of conductors), the elevation of the line above sea level, the condition of the conductor and hardware, and the local weather conditions. This noise increases with the voltage of the

line, irregularities on the conductor surface caused either by age or moisture, and wet ambient meteorological conditions, when high humidity, fog, or rain occur.

While a wealth of information related to the effects of anthropogenic noise on wildlife is available in the literature, studies focused on corona noise are extremely limited. The lack of directed research or clear evidence becomes even more evident at the species level. Among the reasons for this lack of information appear to be a deficiency of reliable knowledge on long-term patterns of behaviors and auditory functions in many species as related to transmission lines. For example, Reimers et al. (2000) states that reliable knowledge is lacking on the effects of transmission lines on reindeer ecology due to the lack of long-term monitoring of reindeer migration patterns in relation to existing lines and the fact that nothing is known about hearing in reindeer in relation to transmission line noise. This is likely the case for other common species expected to occur in the vicinity of the proposed transmission line. Subsequent studies on reindeer and corona noise found that reindeer are able to hear corona noise at levels above 250 Hz. By comparison, humans are better able to hear corona noise than reindeer, at least at the lowest frequencies (Flydal, 2003). It is possible that other species follow the same general pattern; however, scientific literature on this subject is limited.

Although the specific effects of corona noise on wildlife are not clearly understood, it has been shown that population-level effects are more substantial when animals are exposed to sounds that repeatedly occur over extended periods of time as compared to noises resulting in one-time acute responses (OSB, 2003). This is likely a result of sustained background noise reducing (masking) the detection and discrimination of communication signals. These signals may be important for mate attraction, social cohesion, predator avoidance, prey detection, navigation, and other basic behaviors. Masking may be one of the most significant effects of a general increase in background noise on most vertebrates (OSB, 2003). For example, reproduction in many frog species is initiated when sexually mature males use vocalizations to advertise their sex, receptiveness, location and species identity (Odendaal et al., 1986 as in AMEC, 2005). Noisy environments can interfere with this communication process, and create problems with respect to detection, discrimination, and localization of appropriate signals (Wollerman, 1998 as in AMEC, 2005).

In some cases, species may adapt to alterations of the environmental soundscape, either through habituation or modifications in behavior. Habituation may occur if a stimulus occurs repeatedly without negative consequence and if the benefits, such as access to food, outweigh the costs of not reacting (OSB, 2003 as in AMEC, 2005). Moen et al. (1982) concluded that deer learned to associate the sound of chainsaws with felled trees, leading to new foraging supplies. Thus, the detrimental consequences of human activities were undermined by the habitual recognition of noise resulting in access to food. Additionally, raptors are known to associate military training exercises with activities that scare prey into the open (Andersen et al., 1986, 1990). Brumm (2004) identified a modification in bird behavior as territorial males demonstrated singing with higher amplitudes to mitigate for masking noise in the natural environment. However, birds forced to sing with higher amplitudes must bear the increased costs of singing.

With the exception of Segments 4 and 9, the transmission line upgrade would result in a substantial increase in ambient noise levels due to increased corona noise along the proposed route. According to noise modeling surveys, corona noise is estimated to increase by amounts in excess of 30 dBA at some locations along the proposed route (CH2M Hill, 2007). It is important to note that these changes are specific to corona noise and would occur within the immediate vicinity of the ROW. At areas beyond the immediate edges of the ROW, noise signals are subjected to attenuation. Attenuation is the process by

which all signal components decline equally in intensity due primarily to spherical spread, the dispersion of signal energy over an expanding sphere during transmission. Aside from decreasing intensities due to simply moving away from the point source of a particular noise, other factors contributing to attenuation effects include atmospheric absorption, scattering, and boundary interference. These factors can be further modified by environmental elements such as topography, foliage, and temperature and humidity gradients (Rabin et. al, 2003).

As the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Animals, especially breeding birds and other wildlife that use sound for communication, would be expected to move away from the line in order to minimize interference with communication. However, because of the availability of habitats in the Project area, this would not be expected to constitute a substantial impact. Corona noise is already present along most of the proposed Project, and while the proposed Project will result in louder corona noise for most segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance.

CEQA Significance Conclusion

As described above the effects of corona noise on wildlife are poorly understood, and it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. In the Project area, animals are already subject to existing corona noise and while the proposed Project will result in louder corona noise for most segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Thus, corona noise from the proposed Project would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

The ANF NF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. Detailed information addressing effects to MIS are incorporated by reference and have been included in Appendix F. Table 3.4-23 identifies the impacts to MIS habitats that would occur during implementation of the proposed Project.

Management Indicator (MI)	Management Indicator Species (MIS)	Acres Directly Impacted by Alternative 2
Fragmentation	Mountain lion	272
Healthy Diverse Habitats	Mule deer	272
Aquatic Habitat	Arroyo toad	7
Riparian Habitat	Song Sparrow	0.7
Bigcone Douglas fir Forest	Bigcone Douglas fir	7
Coulter Pine Forest	Coulter pine	8
Montane Conifer Forest	California spotted owl	43

Healthy Diverse Habitats (Mule Deer). Mule deer are used by the ANF as an indicator of healthy diverse habitats. Availability of suitable vegetation for fawning, forage, and cover in close proximity to water is the most limiting factor for mule deer. The ANF LRMP (USDA, 2005) considers all habitat types as potentially suitable for mule deer. Therefore, the entire project area is considered suitable habitat for mule deer. Implementation of the proposed Project would impact approximately 272 acres of mule deer habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

Forest-wide deer population distribution is stable. The proposed Project would result in a slight decrease in forest-wide habitat (0.04 percent of forest-wide habitat) for deer. This decrease is equivalent to less than one deer home range; therefore, the slight decrease in habitat may lead to a slight decrease in population numbers especially if the population is at carrying capacity. Based on the small amount of the decrease, the Project-level habitat impacts will not decrease the existing stable forest-wide population distribution trend.

Mule deer are known to inhabit the entire forest, consisting of a total of 701,122 acres.

Fragmentation (Mountain lion). Availability of adequate prey base and habitat connectivity between subpopulations has been identified as the limiting factors for mountain lion populations. The Forest LRMP (USDA, 2005) considers all habitat types as potentially suitable for the mountain lion. Therefore, the entire Project area is considered suitable habitat. Implementation of the proposed Project would impact approximately 272 acres of mountain lion habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

Forest-wide mountain lion population distribution is stable. The proposed Project would result in a slight decrease in forest-wide habitat (0.04 percent of forest-wide habitat) for mountain lion. This decrease is equivalent to less than one mountain lion home range; therefore, the slight decrease in habitat is not expected to lead to a decrease in population numbers. Based on the small amount of the decrease, the Project-level habitat impacts will not decrease the existing stable forest-wide population distribution trend.

Mountain lions are known to inhabit the entire forest, consisting of a total of 701,122 acres.

Montane Conifer Forest (California spotted owl). The greatest threat to this species on NFS lands is the loss of habitat and subsequent population loss due to large stand-replacement wildfires. California spotted owls are known to be present within Segments 6 and 11 of the proposed Project where they primarily use Bigcone Douglas Fir-Canyon Oak Forest or Canyon Oak Forest. Acres of suitable habitat are used to assess the effects of the proposed Project and alternatives on California spotted owl habitat. Implementation of the proposed Project would impact approximately 43 acres of California spotted owl habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in little impact to the forest-wide habitat (0.03 percent of forest-wide habitat) for California spotted owls. Therefore, the project-level habitat impacts will not alter or contribute to the existing forest-wide population trends for the California spotted owl.

Riparian Habitat (Song Sparrow). The primary threat to song sparrows and other riparian birds is the destruction of riparian habitat and loss of water (USDA, 2005). Acres of suitable habitat are used to assess the effects of the proposed Project and alternatives on song sparrow habitat. Implementation of the proposed Project would impact approximately 0.7 acres of song sparrow habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in a slight decrease in forest-wide habitat (0.015 percent of forest-wide habitat) for song sparrow. This decrease is equivalent to 2.2 song sparrow home ranges; therefore, the slight decrease in habitat would not likely lead to a decrease in population numbers. Based on the small decrease in habitat, the Project-level habitat impacts will not modify the existing declining forest-wide population distribution trend.

Aquatic Habitat (Arroyo toad). Acres of suitable aquatic and riparian habitats is used to assess the effects of the proposed Project and alternatives on arroyo toad habitat. Implementation of the proposed Project would impact approximately 7 acres of arroyo toad habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The effects of the proposed Project will result in a small decrease in forest-wide habitat for arroyo toad (0.02 percent of the forest-wide habitat). The proposed Project will not alter or contribute to the existing forest-wide habitat or population trend.

Oak Regeneration (Blue oak, Engleman oak, and Valley oak). Blue oak, valley oak, and Engelmann's oaks were not identified in the proposed utility corridor and would not be impacted by Project construction. Oak woodlands occur in the valley bottoms and drainages at several locations along the designated utility corridor for the proposed Project on NFS lands and along portions of the ROW in Haskell Canyon on non-NFS lands; however, these three MIS were not found within these oak woodlands. Therefore, the Project-level habitat impacts will not alter or contribute to the existing forest wide population trends for blue oak, Engleman oak, and valley oak.

Bigcone Douglas-fir Forest (Bigcone Douglas-fir). According to the Forest LRMP (2005), the objective for bigcone Douglas fir on the ANF is to maintain bigcone Douglas fir stands. Acres of bigcone Douglas fir within the Project area will be used to assess the effects of the proposed Project. Implementation of the proposed Project would impact approximately 7 acres of bigcone Douglas fir habitat.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The total area impacted by the proposed Project is relatively small and includes 7 acres of disturbance in bigcone Douglas fir habitat. This represents less than 0.02 percent of the total bigcone Douglas fir habitat on the ANF. Key habitat elements for bigcone Douglas fir will not be modified. The Project-level habitat impacts will not alter or contribute to the existing forest-wide population trends for bigcone Douglas fir.

Coulter Pine Forest (Coulter pine). An altered fire regime (fire severity and/or fire return interval) and drought-related bark beetle mortality are the primary factors affecting the abundance and distribution of Coulter pine. Acres of Coulter pine habitat within the Project area will be used to assess the effects of the proposed Project. Approximately 8 acres of Coulter pine habitat would be impacted by the proposed Project.

Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in little impact to the forest-wide habitat (0.17 percent of forest-wide habitat) for Coulter pine. Therefore, the Project-level habitat impacts will not alter or contribute to the existing forest-wide trends for the Coulter pine.

To reduce effects of the proposed Project on MIS SCE would implement APM BIO-1, APM BIO-2, AMP BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo

toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction).

Mitigation Measure for Impact B-42

- B-1a** Provide restoration/compensation for impacts to native vegetation communities. (See full description under discussion for Impact B-1)
- B-1b** Implement a Worker Environmental Awareness Program. (See full description under discussion for Impact B-1)
- B-1c** Treat cut tree stumps with Sporax. (See full description under discussion for Impact B-1)
- B-2** Implement RCA Treatment Plan. (See full description under discussion for Impact B-2)
- B-3a** Prepare and implement a Weed Control Plan. (See full description under discussion for Impact B-3)
- B-3b** Remove weed seed sources from construction routes. (See full description under discussion for Impact B-3)
- B-3c** Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads. (See full description under discussion for Impact B-3)
- B-5** Conduct pre-construction surveys and monitoring for breeding birds. (See full description under discussion for Impact B-5)
- B-8b** Conduct biological monitoring. (See full description under discussion for Impact B-8)
- B-9** Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas. (See full description under discussion for Impact B-9)
- B-30** Conduct pre- and during construction nest surveys for spotted owl. (See full description under discussion for Impact B-29)
- AQ-1a** Implement Construction Fugitive Dust Control Plan. (See full description under Air Quality, Section 3.3)
- H-1a** Implement an Erosion Control Plan and demonstrate compliance with water quality permits. (See full description under Hydrology, Section 3.8).
- H-1b** Dry weather construction. (See full description under Hydrology, Section 3.8).

CEQA Significance Conclusion

Impacts to MIS would occur during construction of the proposed Project and are evaluated in the context of habitat loss. For all MIS in the Project area, loss of habitat occurring from implementation of the proposed Project would be minimal (see Table 3.4-23). However, any loss of habitat would be considered significant without mitigation. To reduce impacts of the proposed Project to less-than-significant levels (Class II), SCE shall implement APM BIO-1, APM BIO-2, AMP BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed

sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction).

Conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

The following local and regional policy documents were reviewed for consistency with the proposed Project:

- South Coast Resource Management Plan
- Southern California Association of Governments Regional Comprehensive Plan and Guide
- Los Angeles County Draft Preliminary General Plan
- Hacienda Heights Community Plan
- Rowland Heights Community Plan
- Altadena Community Plan
- City of La Cañada Flintridge General Plan
- City of Rosemead Draft General Plan
- City of Duarte Comprehensive General Plan Preliminary Draft
- City of Pasadena Comprehensive General Plan
- City of Baldwin Park 2020 General Plan
- Comprehensive General Plan of the City of San Gabriel, California
- Puente Hills Landfill Native Habitat Preservation Authority Resource Management Plan
- Rio Hondo Watershed Management Plan
- County of San Bernardino 2007 General Plan
- Land Management Plan: Southern California National Forests
- Antelope Valley Areawide General Plan
- Food and Agricultural Code Division 23: California Desert Native Plants Act
- Lancaster General Plan
- Palmdale Municipal Code

Generally, these policies and ordinances support the preservation, enhancement, and restoration of natural habitats. Detailed descriptions of the relevant biological policies and actions within these documents are presented in Section 3.4.3, above.

Furthermore, as described in Section 3.4.3, a total of six SEAs overlap with the proposed Project: Joshua Tree Woodlands, San Andreas Rift Zone, Santa Clara River, San Gabriel Canyon, Rio Hondo Wildlife Sanctuary, and Puente Hills. Mitigation proposed above for special-status and unique resources would apply to SEAs as well to protect those resources.

The Project, as designed, may require the removal of oak trees and compliance with Section 22.56 of the Los Angeles County Zoning Code (Part 16). This ordinance requires a permit for the removal of any native oak tree greater than 8 inches in diameter (25 inches or greater in circumference) at breast height. Removed oak trees must be replaced at a ratio of 2:1 (using 15-gallon oaks of the same species, or greater, as determined by the hearing officer), maintained for two years, and replaced if mortality occurs. In addition, a permit is required for the removal of any vegetation on terrain with an 8 percent slope or greater (County Zoning Code Section 12.28). As described in Impact B-1 and consistent with the Los Angeles Zoning Code, all native oak trees shall be avoided where possible. Where avoidance is not possible, SCE shall replace or relocate impacted trees, or pay into the Oak Forest Special Fund.

Furthermore, the Project may result in the loss of Joshua trees and juniper trees in the Northern Region. As described in Section 3.4.3, these species receive protection from the Palmdale Native Desert Vegetation Ordinance. Chapter 14.04 of the City of Palmdale Municipal Code requires a desert vegetation preservation plan with minimum preservation standards for removal of vegetation at sites with Joshua trees and other species included in the California Desert Native Plants Act, California Food and Agriculture Code, Division 23. In compliance with these regulations, SCE shall obtain permits from both Los Angeles and Kern counties for the removal of Joshua trees and other native vegetation. If onsite preservation is not feasible, in lieu, fees will fulfill the requirements of these regulations.

Because of the extensive planning involved in Project design, including implementation of APMs BIO 1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, the proposed Project is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act. Therefore, no impact would occur.

Conflicts with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

The Northern Region of the proposed Project is included in the West Mojave Plan Habitat Conservation Plan (WMPHCP):

The WMPHCP and BLM plan amendment provides a comprehensive strategy to conserve and protect more than 100 listed or special-status wildlife species and their habitats, including the desert tortoise and Mohave ground squirrel. The plan also provides a streamlined program for public agencies and private parties to comply with requirements of the state and federal Endangered Species Acts. In addition to being a multi-agency HCP, it is also an amendment to the 1980 California Desert Conservation Area (CDCA) Plan and includes a final EIS/EIR analyzing the impacts of the plan's provisions.

The WMP was completed in March 2006 but has not been formally adopted. More details related to the WMP can be found in Section 3.4.3.

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Therefore, no impact would occur.

3.4.6.2 Cumulative Effects Analysis

A cumulative impact is one which results from the incremental impact of the proposed Project when combined with other past, present, and reasonably foreseeable future actions that occur within the geographic extent of the cumulative impacts analysis.

Geographic Extent

The geographic extent of this cumulative effects analysis contains the same vegetation mapping area and the extent of the regional setting, as described in Section 3.4.2 (Affected Environment). It is important to note that while the regional extent of these habitat types was considered, only a small area surrounding the footprint of the Project (i.e., 500 feet on either side of the transmission line route) was mapped for the purposes of characterizing vegetation capable of supporting special-status plant and wildlife species, as described in Section 3.4.2. The cumulative effects were analyzed within the context of three separate geographic regions: the Northern Region, which includes parts of southern Kern County and northern Los

Angeles County; the Central Region, which encompasses the ANF; and the Southern Region, which begins at the southern border of the ANF and includes lands within southern Los Angeles County and western San Bernardino County.

Expanding our analysis to a regional scale from the localized scale primarily used for vegetation mapping in Section 3.4.2 allows for the consideration of wildlife corridors, the regional extent of vegetation types, and the regional distribution of special-status species. We have expanded our analysis from that conducted within Section 3.4.2 to include biologically distinct geographic formations: the Antelope Valley in the Northern Region; the San Gabriel Mountain Range within the ANF in the Central Region, including the foothill regions adjacent to the Antelope Valley and the Los Angeles Basin; and the Los Angeles Basin, including the Chino/Puente Hills in the Southern Region. This regional geographic scope is appropriate for analyzing cumulative impacts to biological resources because, although impacts of the proposed Project are primarily localized to the limited impact areas, losses of vegetation types or fragmentation of wildlife corridors would combine with similar impacts of other projects beyond these limited impact areas.

Existing Cumulative Conditions

Northern Region

The Northern Region of the proposed Project is located in the Antelope Valley of the western Mojave Desert and extends north from the northern boundary of the ANF to the proposed Windhub substation at Oak Creek Road, approximately 6 miles west of the City of Mojave (see Section 3.4.2 for complete Existing Conditions). Existing cumulative conditions are defined by past and present agricultural, military, and development activities within the Antelope Valley. The Antelope Valley is an internally drained basin bordered by the San Gabriel and Tehachapi Mountains. Near the center of the Antelope Valley, the dry basins, or playas, of Rosamond and Rogers lakes form the dominant natural landscape feature. Surface flows from the mountainous watersheds to the west and south move overland towards Rosamond Lake as sheet flow, or within natural or artificial channels. Historically, much of the area was cultivated with alfalfa and small grain crops before groundwater withdrawals were restricted in the 1950s due to a reduction in aquifer levels. However, extensive areas of undisturbed saltbush scrub (*Atriplex confertifolia* and *Atriplex polycarpa*) and Joshua tree (*Yucca brevifolia*) woodland habitats occur in areas where high soil salinity/alkalinity renders the land unsuitable for agriculture.

Expansion of the cities of Lancaster and Palmdale in the Antelope Valley has resulted in the continued loss of open space and the degradation of riparian and natural areas that historically supported populations of common, unique, or rare species. Riparian, desert wash, and Joshua tree woodland habitats are gradually being displaced by development, wildlife movement corridors have been modified to the extent that the dispersal and movement of wildlife is curtailed or limited, and expanding population centers are degrading the habitat values where urban and wilderness areas interface.

Central Region

The Central Region of the proposed Project consists of the ANF within the San Gabriel Mountains, north of the Los Angeles Basin and south of the Vincent substation near Forest Ridge Road (see Section 3.4.2 for complete Existing Conditions). Existing cumulative conditions in the Central Region are defined by the efforts of management of public lands on the ANF. The Existing Conditions, as they pertain to biological resources, consist of largely undeveloped, natural vegetation with vast, contiguous open space

consisting primarily of mixed chaparral vegetation bisected by dirt roads used by OHVs and hikers. Along these roads and trails, primarily at their intersection with major roads, invasive weed species dominate and are of major concern for management and removal within the ANF. From a biological perspective, present projects within the ANF are characterized by FS activities such as restoration (including fuels reduction and habitat improvement), operation and maintenance of existing features (including Big Tujunga Dam, special use permits issued to private groups, etc.), management of utility lines (power and crude oil lines), management of road use and safety, and maintenance of trails and recreational features. In addition to these projects located across the ANF, the increase in the population density surrounding the ANF (in the Northern and Southern regions) presents additional threats to existing biological conditions. These threats include increased recreational use, increased air pollution and subsequent nitrogen deposition, greater intensities of “edge effects” at the interface between ANF lands and adjacent privately owned lands, and increased road use. As many residents of Lancaster and Palmdale use Highway 59 and Highway 2 as regular commuting routes through the ANF to the Los Angeles Basin, population increases in these communities (see Northern Region, above) are likely to directly contribute to increased cumulative impacts related to motorized vehicle travel through the ANF.

Southern Region

The Southern Region of the proposed Project occurs in the Los Angeles Basin from the San Gabriel Mountains in the north, through the urban areas of the Basin, to the Puente and Chino Hills. Only the foothills of the San Gabriel Mountains, Puente Hills, Chino Hills, and portions of the Montebello Hills remain as native, relatively intact habitat in the Southern Region (see Section 3.4.2 for a complete description of Existing Conditions). Existing cumulative conditions in the Southern Region are defined primarily by the urban/suburban interface within these few remaining natural areas, often protected from development by communities containing remnant native hillsides. In the past, open space areas in the Southern Region have been consistently converted to other land uses to accommodate the increasing population. However, as natural areas have diminished in size to a few large parks, such as the Santa Fe Dam and Recreation Area, Whittier Narrows Dam and Recreation Area, and the Emerald Necklace Corridor, these areas have been protected and comprise the few remaining wildlife corridors and natural areas capable of supporting special-status species.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects within the Project Area are expected to be characteristic of past and ongoing projects. As discussed above, ongoing development is dominated by residential home construction, clustered in and around communities on non-FS lands. This trend in residential development is also representative of reasonably foreseeable future projects supported by the population growth forecasted throughout much of the Project Area. Cumulative projects that are expected to occur in each of the three Regions are described below.

Northern Region

As previously discussed, the North Region is currently undergoing rapid population growth and development, particularly in and surrounding Lancaster and Palmdale. The current growth and expansion in the Antelope Valley described above is also representative of reasonably foreseeable future projects, based upon population forecasts for the region. Furthermore, the impacts to biological resources resulting from the loss, fragmentation, and/or degradation of habitat from past and ongoing projects are likely to continue and increase in the future.

The cumulative impact scenario presents data regarding population growth in Kern and Los Angeles counties. According to this information, the population in Kern County is expected to rise by 113 percent between the years 2000 and 2050. The population in Los Angeles County is expected to rise by varying degrees, depending on the city, with the cities of Lancaster and Palmdale experiencing growth of 117.5 percent and 186.5 percent, respectively. Residential and non-residential development has been necessary to accommodate the increase in population. Proposed and on-going plans demonstrate this growth, and are suitable for analyzing cumulative impacts. Development and urbanization in the Northern Region is expected to continue and increase substantially to accommodate the increasing population. This will continue to adversely affect biological resources, further fragmenting wildlife corridors and contributing to the loss and degradation of habitat capable of supporting special-status species. Some developments will occur directly within or adjacent to riparian areas, desert washes, Joshua tree woodland, or within habitats suitable for special-status species.

This regional cumulative analysis takes into account the future development of the cities of Palmdale and Lancaster, including planned developments proposing to construct 3,715 single-family homes in Palmdale and 9,798 single-family homes in Lancaster and planned developments within Tejon Ranch (23,000 dwelling units in Centennial and 3,450 dwelling units in the Tejon Mountain Village).

The regional context also extends north to the foothills of the Tehachapi Mountains near Oak Creek Road, where several windfarm projects are planned (proposing to provide the capacity to generate 5,587.1 MW wind generated energy). In addition, due to the rapid growth in this region, several large-scale transportation projects are planned, including portions of the California High Speed Rail and portions of the Orangeline High Speed Maglev Project. The Antelope Valley Water Bank Project also proposes to store water on approximately 640 acres near Rosamond Boulevard between 170th Street and 160th Street West. The Bureau of Land Management (BLM) has received more than 40 applications for solar energy projects located in the California Desert Conservation Area (CDCA). Several projects are located in the vicinity of the TWRA and could potentially interconnect with the proposed Project.

Central Region

The currently proposed project types described previously for past and ongoing ANF activities are representative of future ANF projects. Most of these proposed projects are focused on restoration, habitat improvement, and maintenance of existing facilities. As presented in the cumulative scenario, some of the projects that are planned or underway in the ANF include activities to operate and maintain existing features (including Big Tujunga Dam, special use permits issued to private groups, etc.), reduce fuel loads for fire safety, manage utility lines (SCE and crude oil lines), manage road use and safety, and maintain trails and recreational features. These projects demonstrate the FS's commitment to preserve natural resources within the ANF while providing recreational opportunities for the public. Reasonably foreseeable changes to biological resources in the ANF may include improvements to and expansion of existing facilities and infrastructure (including roads), as well as the establishment of additional resources or facilities. Existing wilderness areas in the ANF will continue to be protected from development and expanded if possible (for instance, through the conversion of an Inventoried Roadless Area under consideration for wilderness designation to a designated Wilderness Area). Cumulative impacts such as increasing habitat degradation near roads resulting from noxious weed infestations may intensify.

Southern Region

The Southern Region is predominately urban in nature, with small patches of fragmented natural habitat throughout the majority of the Los Angeles Basin. Only the foothills of the San Gabriel Mountains,

Puente Hills, Chino Hills, and portions of the Montebello Hills remain as native, relatively intact habitat in the Southern Region. This general setting will likely persist into the future. Expected population growth in the Southern Region ranges from about five percent or less (City of Industry, La Cañada Flintridge, San Marino) to more than 90 percent (City of Ontario), between the years 2000 and 2030. Proposed and ongoing plans previously described demonstrate this growth. The most highly urbanized areas cannot physically accommodate lateral growth, and the General Plan for each city prescribes maintaining open space and natural areas capable of supporting biological diversity. The few large housing developments planned are in-fill sites not suitable to special-status species, in most cases. Local future growth is reasonably expected to be located within in-fill sites. Remaining native habitat is protected by local ordinances, is likely to be protected, or is likely to be conserved through conservation easements and managed by entities, such as the Puente Hills Landfill Native Habitat Authority.

Reasonably foreseeable cumulative projects in the Southern Region include approximately 6,400 single-family or multi-family units, the construction of five natural gas-fired turbine generators near the City of Industry, and portions of transportation projects such as the California High Speed Rail, and the Orangeline High Speed Maglev Project. These projects continue to threaten native habitats of the Region, as available space for building diminishes. For example, coastal sage scrub habitat, although regionally abundant, has experienced rapid declines in the past decade from increasing development of coastal areas. Similarly, southern California black walnut, once prolific, is now extremely limited in distribution with fragmented populations of these trees forming disjunct, somewhat degraded communities.

Cumulative Impact Analysis

Impacts of the proposed Project would be cumulatively considerable if they combine with similar impacts of other past, present, or reasonably foreseeable projects. Table 3.4-24, below, identifies which impacts of the proposed Project would be cumulatively considerable and of those, what the cumulative significance of each impact would be. Impacts that are not cumulatively considerable would not have an incremental effect on the cumulative scenario.

Impact	Cumulatively Considerable?	Cumulative Significance
B-1: Construction activities would result in temporary and permanent losses of native vegetation.	Yes	Class I
B-2: The Project would result in the loss of desert wash or riparian habitat.	Yes	Class I
B-3: The Project would result in the establishment and spread of noxious weeds.	Yes	Class I
B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.	Yes	Class I
B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors.	Yes	Class I
B-6: The Project would cause the loss of foraging habitat for wildlife.	Yes	Class I
B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.	Yes	Class I
B-8: The Project would result in the loss of California red-legged frogs and mountain yellow-legged frogs.	Yes	Class I
B-9: The Project would result in the loss of arroyo toads.	Yes	Class I
B-10: The Project would result in the loss of desert tortoises.	Yes	Class I
B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.	No	Class III
B-12: The Project would result in the loss of special-status fish.	Yes	Class I
B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.	Yes	Class I
B-14: The Project would result in loss of California condors.	Yes	Class I

Table 3.4-24. Cumulative Impacts for Biological Resources – Alternative 2		
Impact	Cumulatively Considerable?	Cumulative Significance
B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.	Yes	Class I
B-16: The Project would result in the loss of coastal California gnatcatchers.	Yes	Class I
B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.	Yes	Class I
B-18: The Project would disturb nesting Swainson's hawks.	Yes	Class I
B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.	Yes	Class I
B-20: The Project would result in electrocution of State and/or federally protected birds.	Yes	Class I
B-21: The Project would result in collision with overhead wires by State and/or federally protected birds.	Yes	Class I
B-22: The Project would result in disturbance to Mohave ground squirrels.	Yes	Class I
B-23: The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species.	Yes	Class I
B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.	Yes	Class I
B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.	Yes	Class I
B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.	Yes	Class I
B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.	Yes	Class I
B-28: The Project would disturb wintering mountain plovers.	Yes	Class I
B-29: The Project would result in the loss of occupied burrowing owl habitat.	Yes	Class I
B-30: The Project would result in the loss of occupied California spotted owl habitat.	Yes	Class I
B-31: The Project would disturb nesting California spotted owls.	Yes	Class I
B-32: The Project would disturb nesting avian "species of special concern."	Yes	Class I
B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.	Yes	Class I
B-34: The Project would result in transmission line strikes by special-status bat species.	No	Class III
B-35: The Project would result in mortality of, and loss of habitat for special-status mammals.	Yes	Class I
B-36: The Project would result in mortality of San Diego desert woodrats.	Yes	Class I
B-37: The Project would result in mortality of, and loss of habitat for the ringtail.	Yes	Class I
B-38: The Project would result in mortality of American badgers.	Yes	Class I
B-39: The Project would result in the loss of wetland habitats.	Yes	Class I
B-40: The Project would interfere with established bird and bat migratory corridors.	No	Class III
B-41: Corona noise would result in disturbance to wildlife.	No	Class III
B-42: The Project would result in effects to Management Indicator Species.	Yes	Class I

As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), any impacts to special-status plant, fish, or wildlife species, or to habitats capable of supporting these species within the Project alignment, is significant and would require mitigation. These Project impacts would also contribute to the cumulative loss of these resources when combined with the effects of past, present, and reasonably foreseeable projects. Mitigation for the loss of special-status species and their habitats is addressed in Section 3.4.6.1. Cumulative impacts may occur to formerly undetected populations of special-status plant, fish, and wildlife species that are discovered as a result of future surveys. Should special-status species be observed during future Project surveys, mitigation measures provided within Section 3.4.6.1 will minimize impacts to special-status species.

The potential for cumulatively considerable biological resource impacts from the combination of Project impacts and similar impacts of other projects within the geographic scope of this analysis are described below.

- Construction activities would result in temporary and permanent losses of native vegetation (B-1).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), the Project would result in the temporary and permanent loss of native vegetation in the Northern, Central, and Southern regions. Past and foreseeable future actions in these areas would also result in considerable loss of native vegetation. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), as well as fuel treatment and infrastructure projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of several native vegetation types that are limited in distribution within southern California (see Tables 3.4-17 and 3.4-18). Mitigation measures proposed for this Project for these impacts (B-1a [Provide restoration/compensation for impacts to native vegetation communities], B-1b [Implement a Worker Environmental Awareness Program], B-1c [Treat cut tree stumps with Sporax], H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits], and AQ-1a [Implement Construction Fugitive Dust Control Plan]) would reduce these impacts, but they would still be cumulatively considerable. Therefore, the impacts to native vegetation have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

Location and Name of Project	Type of Project	Distance from Proposed Project (mi)	Status	Approximate No. of Acres Impacted
Willow Springs, PdV/Manzana	Wind energy generation	0.1	Proposed	6,435
Tehachapi to Mojave, Alta Wind Energy Center	Wind energy generation	<3	Proposed	32,000
North of Mojave, Pine Tree wind development	Wind energy generation	~15	Proposed	8,000
Antelope Valley, Antelope Transmission Project Segments 1-3	Transmission lines and towers	0	Approved	~51 linear mi
Antelope Valley, Barren Ridge Transmission Project	Transmission lines and towers		Proposed	~90 miles
Northern Antelope Valley, El Paso Line 1903 Conversion	Pipeline replacement	0	N/A	6.4 linear mi
South of Willow Springs, Pacific Wind	Wind energy generation	<2	Planning	5,363*
Antelope Valley (near Windhub and Vincent substations), CA high speed rail	Transportation infrastructure	0 to 2.5	Planning	~50 linear mi
Acton, Orangeline High Speed Maglev	Transportation infrastructure	0	Planning	>20 linear mi
Antelope Valley, Antelope Valley Water Bank	Water storage facility	0	Planning	13,440
South of Rosamond, Copa de Oro Planned Community	Residential	0.2	Approved	>600 (1,201 housing units)
Lancaster, various names	Residential, commercial, open space	0.5 to 1.0	Approved	2,303 (~6,500 housing units, schools, open space)
Palmdale, Ritter Ranch Master Planned Community	Residential, commercial, golf course	0	Approved	11,520 (7,200 housing units, 7 schools, 73 acres of commercial development, golf course)
Palmdale, Anaverde Master Planned Community	Residential, commercial, schools	0	Under construction	8,320* (5,200 housing units, retail stores, Olympic-sized swimming pool)

Table 3.4-25. Development Projects Proposed, in Progress, or Recently Completed within the Antelope Valley of Kern and Los Angeles Counties, California

Location and Name of Project	Type of Project	Distance from Proposed Project (mi)	Status	Approximate No. of Acres Impacted
Palmdale, Rancho Vista Development	Residential, commercial, schools, open space	0.5	Proposed	8,800* (5,500 housing units, schools, golf course, shopping areas, parks)
Palmdale, Quail Valley Annexation and Development Plan	Residential, open space	0	Proposed	1,000 (712 housing units and open space)
Palmdale, Joshua Ranch Development	Residential, commercial, schools, open space	0.2	Proposed	794 (746 residential units and equestrian center)
Palmdale, Ritter Ranch Substation	Substation	0.1	Proposed	3
Quartz Hill, various names	Residential, senior housing	~2.5	Planning	270* (96 housing units)
Total				98,848

*Acreage estimate based on the ratio of proposed wind turbines to acres impacted for similar projects in the Antelope Valley.

Table 3.4-26. Residential Development Projects Proposed, in Progress, or Recently Completed within the Chino and Puente Hills

Location (City)	Distance From Proposed Project Area (Mi)	Status	Approximate No. of Housing Units	Approximate No. of Acres Impacted
Eastern Chino Hills (City of Chino Hills)	0	Proposed	1,330	1,552*
Central Puente Hills (Brea)	0	Proposed	3,600	3,000
Southwestern Chino Hills (Brea)	2.5	In progress	658	280
Tonner Hills (Brea)	0.7	Approved but not built	705	789
Tonner Hills (Brea)	2.6	In progress	55	14
Chino Hills (Carbon Canyon)	1.2	Proposed	176	369
Tonner Canyon (Brea)	<1.2	Proposed	400	~467*
Total	—	—	5,594	6,454

*Acreage estimate based on the average ratio of housing units to acres impacted for similar projects in the Chino and Puente Hills.

- The Project would result in the loss of desert wash or riparian habitat (B-2).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), the Project would result in the temporary disturbance to, and permanent loss of, desert wash and riparian habitat in the Northern, Central, and Southern regions of the Project (see Tables 3.4-17 and 3.4-18). Past and foreseeable future actions in these areas would also result in considerable loss of, or degradation of, desert wash and riparian habitat. Desert wash habitat occurs primarily within the Northern Region of the proposed Project (Segment 10) and is a limited resource in the Antelope Valley. This resource is also present in the Kentucky Springs Canyon region north of and transitioning into the ANF. Although this unique hydrogeomorphic landform is relatively common in parts of the Antelope Valley, much of this habitat has been lost over the last several decades due to development and agricultural practices, particularly in undeveloped portions of the Project area where off-road vehicle paths and paved roads transect desert washes. Desert wash habitats play an important role in conveying surface flows during the rainfall season to other habitats located down slope that support special-status plants, such as the alkali mariposa lily. Due to its ability to support wildlife and the ongoing loss of riparian habitat statewide, CDFG considers riparian habitat (and desert wash habitat) to be worthy of consideration, both in general and within each of the specific riparian habitat types described in Section 3.4.6.1. SCE has indicated that impacts to most drainages, desert washes, and riparian areas would not occur as these areas would be spanned by the Project. However, considerable riparian habitat would be impacted from the expansion of the existing access roads and creation of spur roads to structures. Any activities that involve modification of the bed or bank of a state or U.S.-jurisdictional waterway would be regulated by the CDFG, Regional Water Quality Control Board (RWQCB), and USACE. On NFS lands no activities can occur within designated Riparian

Conservation Areas without approval from the FS. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact would reduce and/or degrade desert wash and riparian habitat types that are limited in distribution within southern California. Mitigation measures proposed for this Project for these impacts (B-1a: Provide restoration/compensation for impacts to native vegetation communities, B-1b: Implement a Worker Environmental Awareness Program, B-2: Implement RCA Treatment Plan, H-1a: Implement an Erosion Control Plan and demonstrate compliance with water quality permits, and AQ-1a: Implement Construction Fugitive Dust Control Plan) would reduce these impacts, but they would still be cumulatively considerable. Therefore, the impacts to desert wash and riparian habitat types has the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the establishment and spread of noxious weeds (B-3).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), noxious weeds often establish following disturbance and/or water or nutrient addition. In addition, once established, populations of weeds are extremely difficult to eradicate. The spread of existing weeds or the introduction of new weed populations is a significant Project impact and would also contribute to the cumulative spread of weeds when combined with weed population establishment and spread occurring from other past and reasonably foreseeable projects. The habitat degradation resulting from the spread of weeds is significant and any cumulative effects of weed invasion would be significant. Other projects that promote new, or worsen existing, weed invasions are likely to occur concurrent with and in the vicinity of the proposed Project. Mitigation measures imposed on the proposed Project, including B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce cumulative impacts, but not to less-than-significant levels. Therefore, the introduction and spread of noxious weeds by the proposed Project has the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality (B-4).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), the Project would result in disturbance to wildlife and wildlife mortality during construction activities. Past and foreseeable future actions in these areas would also result in considerable disturbance to wildlife, especially common species. Foreseeable future actions include various infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be potentially adverse and cumulatively considerable. Implementation of APM BIO-1 (pre-construction clearance surveys for wildlife) and Project Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the Project's incremental contribution to cumulative effects to wildlife. However, the Project has the potential to combine with similar impacts of other past and reasonably foreseeable future projects, and the cumulative impacts stemming from disturbance to wildlife would be cumulatively significant and unavoidable (Class I).
- **Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors (B-5).** The Project could result in loss of nesting birds if construction activities were conducted during the breeding season. Past and foreseeable future actions in these areas could also result in considerable loss of nesting birds if construction activities were spatially or temporally combined. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, is significant because the impact substantially reduces the acreage of several habitat types that are important for nesting birds and limited in distribution in southern California, such as riparian habitats. Implementation of APMs and mitigation measures (APM BIO-1: SCE pre-construction clearance surveys for wildlife; APM BIO-8: pre-construction clearance surveys for raptors; and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian

birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the proposed Project's incremental contribution to cumulative impacts. However, construction-related impacts to nesting birds have the potential to combine with similar impacts of past and foreseeable future projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would cause the loss of foraging habitat for wildlife (B-6).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), the Project would result in loss of foraging habitat for wildlife. Past and foreseeable future actions in these areas would also result in considerable loss of foraging habitat. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of several habitat types that are important for wildlife and limited in distribution in southern California. Mitigation measures proposed for this Project for these impacts (B-1a [Provide restoration/compensation for impacts to native vegetation communities], B-1b [Implement a Worker Environmental Awareness Program], B-2 [Implement RCA Treatment Plan], B-3a [Prepare and implement a Weed Control Plan], AQ-1a [Implement Construction Fugitive Dust Control Plan], and H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits]) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to wildlife foraging habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would disturb endangered, threatened, or proposed plant species or their habitat (B-7).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities could disturb, degrade, or cause permanent loss of habitat for endangered, threatened, or proposed plant species and could also cause loss of endangered, threatened, or proposed plant individuals or populations. Proposed construction locations were surveyed in 2008, and most areas comprised unsuitable habitat for special-status plant species (see Sections 3.4.2, Affected Environment, and 3.4.6, Alternative 2: Impacts and Mitigation Measures). However, some listed plants may occur within the alignment, particularly within the ANF, and thus, Project implementation may result in permanent loss of suitable habitat for these species due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, introduced species, fire, drought) have resulted in considerable incremental adverse impacts to State and federally listed plants and their habitats. Foreseeable future actions in this area will also result in considerable adverse impacts to these plants and their habitats. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26) and fuel treatment and infrastructure projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat for multiple listed plants in the region. Mitigation measures proposed for this Project such as AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to endangered, threatened, and proposed plant species or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of California red-legged frog and mountain yellow-legged frog (Impact B-8).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in "take" of California red-legged frogs and mountain yellow-legged frogs. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to permanent structures and/or roads. California red-legged frogs may occur within the Amargosa Creek watershed in the vicinity of the Amargosa Creek alignment crossing in the Northern Region. California red-legged frogs and mountain yellow-legged frogs are presumed absent from the Southern Region and may occur within the Central Region, where suitable habitat is present at Lynx Gulch, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River. Past actions and natural events in the Northern and Central regions (e.g., road construction, development, recreational activities, fire, drought) have resulted in

considerable adverse effects to California red-legged frogs and mountain yellow-legged frogs. Foreseeable future actions in the Central Region are limited and are expected to have minimal effects on red-legged and yellow-legged frogs; however, foreseeable future actions that could adversely affect these species in the Northern Region include the Amargosa Creek Improvements Project, which includes road and flood control improvements. Project impacts, should they occur, would contribute substantially to the incremental take of and loss of habitat for these species when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects. These impacts would be cumulatively considerable because the aforementioned past actions and natural events have so severely impacted California red-legged frog and mountain yellow-legged frog populations that both species are now at the brink of extirpation in southern California. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and B-8b (Conduct biological monitoring) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to California red-legged frog and mountain yellow-legged frog or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of arroyo toad (Impact B-9).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in “take” of arroyo toad. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to the construction of permanent structures and/or roads. Arroyo toads have the potential to occur in the Central Region of the Project. Past actions and natural events in the Central Region (e.g., road construction, development, recreational activities, fire, drought) have resulted in considerable adverse effects to arroyo toads. Project impacts, should they occur, would contribute substantially to the incremental take of, and loss of habitat for, arroyo toad when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and B-8b (Conduct biological monitoring), which collectively, would mitigate for loss of habitat, require ANF oversight of Project activities in Riparian Conservation Areas, minimize the likelihood of habitat alteration through the proliferation of weeds, and minimize the likelihood of take of individual toads, would reduce cumulative impacts. However, the impacts to arroyo toad have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of desert tortoise (Impact B-10).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in “take” of desert tortoise. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to the construction of permanent structures and/or roads. Desert tortoises have the potential to occur in the northernmost portions of the Northern Region. Past actions and natural events within the Northern Region (e.g., development, urbanization, drought) have resulted in considerable adverse effects to desert tortoises. Foreseeable future actions that could adversely affect desert tortoises in the Northern Region include projects such as the PdV, Alta, and Pine Tree wind farms; El Paso Line 1903 Pipeline Conversion Project; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; and at least 12 separate small- and large-scale residential and planned community developments in southern and central Kern County. These projects will result in considerable incremental adverse effects to desert tortoises. Project impacts, should they occur, would contribute substantially to the incremental take of, and loss of habitat for, desert tortoises when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-10 (Conduct presence or absence surveys for desert tortoise and implement avoidance measures), and AQ-1a (Implement Construction Fugitive Dust Control Plan), which collectively, would mitigate for loss of habitat, minimize the likelihood of

habitat alteration through the proliferation of weeds, and minimize the likelihood of take and spread of disease to individual tortoises, and would reduce cumulative impacts. However, the impacts to desert tortoise have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would result in mortality of desert tortoises as a result of increased predation by common ravens (Impact B-11).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), the proposed Project would increase the number of transmission towers and substation-associated structures that provide potential nest and perch sites for common ravens (*Corvus corax*), which are known predators of juvenile desert tortoises. Raven population increases appear to be associated with increased perch sites and food supplies made available to ravens via human disposal (e.g., landfills, dumpsters, and litter). Past actions (e.g., development, urbanization, landfill construction, litter, recreation) have resulted in considerable incremental adverse impacts to desert tortoises resulting from common raven predation. Although natural events such as drought and fire have also adversely impacted desert tortoise populations, no natural event has been linked to population increases of common ravens and their predation of desert tortoises. Foreseeable future actions in this area will also result in considerable incremental adverse impacts to desert tortoises resulting from common raven predation. Foreseeable future actions include projects such as the PdV, Alta, and Pine Tree wind farms; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; and at least 12 separate small- and large-scale residential and planned community developments in southern and central Kern County. Project impacts, should they occur, would contribute substantially to the incremental predation of desert tortoises by common ravens when combined with the effects of such predation caused by other past and reasonably foreseeable projects. However, none of the aforementioned foreseeable projects would occur in the vicinity of the proposed Project and in known occupied desert tortoise habitat and are, therefore, not cumulatively considerable. Raven population increases, if they occur, are expected to be small, and food supplies are not expected to change appreciably in portions of the Project area where desert tortoises may occur. Therefore, the construction of additional towers and substation-associated structures is not expected to result in a significant increase in cumulative predation of the desert tortoise, if present, by common ravens (Class III).
- **The Project would result in the loss of special-status fish (B-12).** Project impacts to special-status fish are cumulatively considerable. The Santa Ana sucker, arroyo chub, and Santa Ana speckled dace are known to occur in Big Tujunga Creek and the San Gabriel River. Santa Ana suckers occur downstream of the Big Tujunga and Cogswell reservoirs. Project effects to the Big Tujunga population are not expected; however, the Santa Ana sucker is present along the proposed West Fork Cogswell road. While sediment analysis studies indicate there will be no regional effect on water quality from erosion, small localized effects could result in adverse effects to these species. In addition, fuel treatments proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon will directly overlap with Segment 6. These fuel treatments would remove upland vegetation bordering Big Tujunga Creek and could increase stream sedimentation through the deposition of erosional silt adjacent to the creek. Implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce the cumulative impacts of the Project on special-status fish species. However, the impacts to special-status fish species or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).
- **Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker (B-13).** Critical habitat for Santa Ana sucker exists downstream of Cogswell Reservoir, in an area that would include an access road for heavy equipment. This access road is paved and runs for approximately 7.4 miles adjacent to the West Fork San Gabriel River. Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light regimes from the trimming and/or removal of some riparian vegetation. As described under Impact B-12, vehicle passage through flowing water or leakage onto roadways that is transported into the river during storm events could result in the degradation of habitat.

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials. However, through the implementation of project minimization measures described under Impact B-12 these effects would be minimized or avoided. With the implementation

of these measures the project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Operational effects would not occur because once the Project has been completed use of the West Fork Cogswell road would not occur. Mitigation measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). However, the impacts to critical habitat for the Santa Ana sucker have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of California condor (B-14).** Project-related construction activities could result in impacts to California condors, if present. Past and foreseeable future actions in these areas could also result in impacts to California condors if present. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities have the potential to impact and result in the loss of California condors. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-8b (Conduct biological monitoring), and B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would reduce these cumulative impacts. However, construction-related impacts to California condors have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat (B-15).** Impacts to least Bell's vireos are cumulatively considerable within the Whittier Narrows and Rio Hondo portions of the proposed Project. A storage facility expansion project is planned for the city of Irwindale, adjacent to the Project near the Rio Hondo. The combined effect of this commercial project, other past projects, and the proposed Project would be significant, because their impact increases the level of disturbance to least Bell's vireos within the Rio Hondo. Disturbance to southwestern willow flycatchers and yellow-billed cuckoos, if present, would also occur in riparian areas of the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to least Bell's vireos and other listed riparian birds have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of coastal California gnatcatchers (B-16).** Impacts to coastal California gnatcatchers are cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 3.4-26). These projects include large community developments in areas that are currently undeveloped, including 4,902 acres of grasslands, coastal scrub, and woodlands. These collective projects would result in the loss of suitable coastal sage scrub habitat for the coastal California gnatcatcher. Continued loss and fragmentation of suitable coastal sage scrub habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of this species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the combined impacts substantially reduce the acreage of suitable habitat in the region. Further, disturbance to California gnatcatchers due to construction activities for this and other cumulative projects would be significant. Implementation of APMS BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement

avoidance measures), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to coastal California gnatcatchers have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatchers (B-17).** The FWS designated two areas along Segment 7 (Montebello Hills and Whittier Narrows Recreation Area) and several portions along Segment 8A in the Montebello, Puente, and Chino Hills as critical habitat for the coastal California gnatcatcher (both within Critical Habitat Unit 9). Construction activities, including the installation of permanent structures and/or roads, would result in the loss of an estimated 2.4 acres of critical habitat on Segment 7 and 42.6 acres on Segment 8. As mentioned above, there are six residential development projects proposed or in progress within the Puente and Chino Hills, between 0 and 2.6 miles from the proposed Project (Table 3.4-26). Some of these areas may be adjacent to or within designated critical habitat and/or occupied habitat for the coastal California gnatcatcher. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact may considerably reduce the acreage of critical or occupied habitat in the region. Implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to coastal California gnatcatcher habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I)
- **The Project would disturb nesting Swainson's hawks (B-18).** Impacts to nesting Swainson's hawks are cumulatively considerable within the Northern Region of the Project. The Antelope Valley is anticipated to grow substantially in the coming decades, and the cities of Lancaster and Palmdale are expected to increase by more than 308,000 people in the next 25 years. Included in these projects are three large-scale planned community developments, totaling 2,303 acres, located within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to disturb nesting Swainson's hawks is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant because the combined impact would increase the potential for disturbance to nesting Swainson's hawks. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts of the proposed Project to nesting Swainson's hawks have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of foraging habitat for Swainson's hawks (B-19).** Impacts to foraging habitat for Swainson's hawks are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community developments, totaling 2,303 acres, will be located within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to remove foraging habitat for Swainson's hawks is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant because the combined impact could substantially reduce the acreage of suitable foraging habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts of the proposed Project to Swainson's hawk foraging habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in electrocution of State and/or federally protected birds (B-20).** Impacts to State and federally protected birds as a result of electrocution from transmission lines are potentially cumulatively considerable within the Northern Region, where approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 miles)

to Segment 5 of the Project. In addition, the continued development of the Region will likely require an expansion of small distribution lines to support both residential and industrial development. The majority of electrocutions are caused by lines that are energized at voltage levels less than 69 kV, and large, aerial-perching birds such as hawks and eagles are most susceptible to electrocution from these lines. To reduce such mortality events, SCE will implement APMs BIO-4 and BIO-9 as part of the proposed Project (in accordance with the *Suggested Practices for Raptor Protection on Power Lines* and *Avian Protection Plan Guidelines*). However, because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. The cumulative impacts of transmission lines on State and federally protected birds resulting from the Project and other past, present, and reasonably foreseeable projects will be cumulatively significant and unavoidable (Class I).

- **The Project would result in collision with overhead wires by State and/or federally protected birds (B-21).** Impacts to State and federally protected birds as a result of transmission line strikes are potentially cumulatively considerable within the Northern Region, where approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 miles) to Segment 5 of the Project. Passerines and waterfowl are known to collide with wires 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). Collision mortality would also be higher where the movements of susceptible species are the greatest such as along waterways or over riparian areas. 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. Collision impacts from the proposed Project are not expected to result in significant impacts to birds in the Project area due to the implementation of APM BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection found in *Suggested Practices for Raptor Protection on Power Lines* (APLIC 2006), and the incorporation of raptor safety protection into the project design (i.e. tower/conductor (lines) on NFS lands). However, as the flight paths become more constrictive and larger numbers of transmission lines, towers, structures, and vehicles occur in the region the numbers of birds subject to collision will continue to rise. When combined with impacts from past, present, or reasonable future projects, these impacts would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in disturbance to Mohave ground squirrels (B-22).** Impacts to Mohave ground squirrels are cumulatively considerable within the Antelope Valley portion of the proposed Project. The Antelope Valley is anticipated to grow substantially in the coming decades, and the cities of Lancaster and Palmdale are expected to increase by more than 308,000 people in the next 25 years. There are at least 16 projects comprising wind energy, electrical transmission, power plant, transportation, water, and residential housing that are proposed, planned, or in progress within the Antelope Valley (Table 3.4-25). Included in these projects are two wind energy developments located within 0.1 to 3 miles from the proposed Project in Kern County with a combined impact of 38,435 acres. Another sizeable project is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located near the county line separating Los Angeles and Kern counties. Several residential construction projects are proposed or in progress near Lancaster (Table 3.4-25). Collectively, these projects would result in the loss of more than 98,808 acres in the Antelope Valley and a significant cumulative loss of more than 65,858 acres of suitable habitat for Mohave ground squirrel.

Continued loss and fragmentation of suitable habitat in the Antelope Valley will continue to contribute to the decline of this species within the region. The incremental effect of the proposed Project on Mohave ground squirrels (if present), when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the combined impact substantially reduces the acreage of suitable habitat in the region. Implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce these impacts. However, the impacts of the proposed Project to Mohave ground

squirrels (if present) have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species (B-23).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities could disturb, degrade, or cause permanent loss of habitat for candidate, FS Sensitive, or special-status plant species in the proposed Project area, and could also cause loss of rare individuals or populations. Proposed tower construction locations were surveyed in 2008, and most areas comprised unsuitable habitat for special-status plant species (see Sections 3.4.2, Affected Environment, and 3.4.6, Alternative 2: SCE's Proposed Project). Some special-status plants are known to occur within the alignment, particularly within the ANF, and Project implementation would thus result in permanent loss of suitable habitat for these species due to installation of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse impacts to special-status plants and their habitats. Foreseeable future actions in this area will also result in considerable adverse impacts to special-status plants and their habitats. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and fuel treatment and infrastructure projects within the ANF. The incremental effects of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, are significant because the impact substantially reduces the acreage of suitable habitat for candidate, FS Sensitive, and special-status plant in the region. Mitigation measures proposed for Impact B-23, such as B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), B-23 (Preserve offsite habitat/management of existing populations of special-status plants), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to special-status plants have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles (B-24).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities may result in mortality or injury of individual southwestern pond turtles within suitable habitat at the following locations: Amargosa Creek, Lynx Gulch, San Gabriel River (Segment 6 and 7), Big Tujunga Creek, Rio Hondo, Brea Canyon, and Tonner Creek. Furthermore, Project implementation may result in permanent loss of nesting habitat in limited areas due to construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse impacts to southwestern pond turtles and their nesting habitat. Foreseeable future actions in this area will also result in considerable adverse impacts to southwestern pond turtles and their nesting habitat. Foreseeable future actions include projects such as the Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; and California High Speed Train System and Maglev. Numerous small- and large-scale residential and planned community developments are also planned within the geographic extent. Project impacts, should they occur, would contribute substantially to the incremental mortality, injury, and loss of nesting habitat for southwestern pond turtles when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to southwestern pond turtles have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes (B-25).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities may result in mortality or injury of individual two-striped garter snakes and

south coast garter snakes within suitable habitat in the Project area. Furthermore, Project implementation may result in loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) within the geographic extent have resulted in considerable incremental injury or mortality of, and loss of habitat for, these species. Foreseeable future actions in this area will also result in considerable impacts of this kind to these species. Foreseeable future actions include projects such as the Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; and California High Speed Train System and Maglev. Numerous small- and large-scale residential and planned community developments are also planned within the geographic extent. Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), B-25 (Conduct focused surveys for two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to two-striped garter snakes and south coast garter snakes have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts (B-26).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), construction activities occurring within one mile of suitable habitat or vehicular crossings at wet fords across occupied drainages have the potential to result in mortality or injury to Coast Range newts. Furthermore, Project implementation may result in permanent loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat due to disturbance from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse effects to Coast Range newts, particularly in the San Gabriel Valley, where effects of development and urbanization have been most intense. However, foreseeable future actions in this region are limited and are expected to have minimal effects on this species. Primarily as a result of considerable past effects, Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, Coast Range newts when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of the APMs (BIO-1 through BIO-7), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to coast range newts have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species (B-27).** As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), Project-related construction activities could result in injury or mortality of 11 terrestrial California Species of Special Concern and FS Sensitive amphibian and reptile species (the special-status terrestrial herpetofauna). Furthermore, Project implementation may result in permanent loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities such as preparation and use of staging areas. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during ground-disturbing Project activities in undeveloped upland habitats and in some developed areas throughout the proposed Project. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) within the geographic extent have resulted in considerable incremental injury or mortality of, and loss of habitat for, these species. Foreseeable future actions throughout the region will also result in considerable impacts of this kind to these species. Foreseeable future actions include projects such as the PdV, Alta, and Pine Tree wind farms; El Paso

Line 1903 Pipeline Conversion Project; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; 465 residence recreation permit issuances on 18 tracts within the ANF, California High Speed Train System and Maglev; and numerous small- and large-scale residential and planned community developments. Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, the special-status terrestrial herpetofauna when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to special-status terrestrial herpetofauna have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would disturb wintering mountain plovers (B-28).** Impacts to nesting wintering mountain plovers are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community developments, totaling 2,303 acres, are planned within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to disturb wintering mountain plovers is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant, because the combined impact substantially reduces the total amount of suitable wintering habitat in the region. Therefore, the impacts of the proposed Project to wintering mountain plovers have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of occupied burrowing owl habitat (B-29).** Impacts to occupied burrowing owl habitat are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community developments, totaling 2,303 acres, are planned for a location near the existing Antelope Substation, within 1.5 miles from the Project. Two other sizeable projects with the potential to reduce occupied burrowing owl habitat in the Northern Region are the 6,400-acre PdV Wind Energy facility planned for a location just east of Segment 10 and the 640-acre Antelope Valley Water Bank facility to be located adjacent to the proposed Whirlwind Substation. Impacts to occupied burrowing owl habitat are also cumulatively considerable within the Southern Region of the Project, where 6,454 acres will be developed in the Chino and Puente Hills near Segment 8. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would result in loss of suitable and possibly occupied burrowing owl habitat in the Northern and Southern regions of the Project. Implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-29 (Implement CDFG protocol for burrowing owls), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts. However, construction-related impacts to occupied burrowing owl habitat have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the loss of occupied California spotted owl habitat (B-30).** Impacts to occupied California spotted owl habitat are cumulatively considerable in Upper Big Tujunga Creek and Mill Creek. Fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Fuel treatments at these sites will substantially reduce the amount of tree cover around FS Administrative Sites within the ANF. These include the treatment of forest habitats at Mill Creek Station (Mill Creek Summit along Angeles Crest Highway) and at Shortcut Station in Upper Big Tujunga Canyon (0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road). The incremental effect of the Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would result in loss of suitable and possibly occupied California spotted owl habitat in the Central Region of the Project. Implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-30 (Conduct pre- and during construction nest surveys for spotted owl), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts.

However, construction-related impacts to occupied California spotted owl habitat have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would disturb nesting California spotted owls (B-31).** Impacts to nesting California spotted owls are cumulatively considerable in Upper Big Tujunga Creek and Mill Creek. As noted above in cumulative impacts for B-30, fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Fuel treatments at these sites will substantially reduce the amount of tree cover and create considerable noise of short duration adjacent to Segment 6. The incremental effect of the Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities could potentially result in disturbance of nesting California spotted owls in the Central Region of the Project. Implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-30 (Conduct pre- and during construction nest surveys for spotted owl), and AQ-1a (Implement Construction Fugitive Dust Control Plan), would reduce these cumulative impacts. However, construction-related disturbance to nesting California spotted owls has the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would disturb nesting avian “species of special concern” (B-32).** The Project would result in the loss of nesting avian Species of Special Concern if construction activities were conducted during the breeding season. Past and foreseeable future actions in these areas would also result in considerable loss of nesting birds if construction activities were spatially or temporally combined. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 3.4-25) and Chino and Puente Hills (Table 3.4-26), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would take place within or adjacent to habitats that are important for nesting avian Species of Special Concern in southern California. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts. However, construction-related impacts to nesting avian Species of Special Concern have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the mortality of, and loss of habitat for, special-status bat species (B-33).** Impacts to pallid bat, western red bat, hoary bat, spotted bat, western mastiff bat, and pocketed free-tailed bat are cumulatively considerable within the ANF and the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 3.4-26). These projects include large community developments, including 4,902 acres of habitat for these special-status species. These collective projects would result in the loss of suitable roosting habitat for pallid bat, western red bat, hoary bat, spotted bat, and western mastiff bat. Continued loss and fragmentation of suitable habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of these species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable roosting habitat in the region. Implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce these impacts.

Impacts to pallid bat, western red bat, and hoary bat are cumulatively considerable in Upper Big Tujunga Canyon on the ANF. Fuel treatments proposed by the FS for Upper Big Tujunga Canyon overlaps with Segment 6 of the proposed Project, approximately 0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road. At this site, the FS will remove shrubs and understory fuels from 50.4 acres of Coulter pine forest and mixed chaparral. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be

significant, because the impact substantially reduces the acreage of suitable roosting habitat in the region. Implementation of the measures identified above would reduce these impacts. However, the impacts to special-status bats have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in transmission line strikes with special-status bat species (B-34).** The Antelope Transmission Project Segments 1-3 proposes the construction of approximately 51 miles of transmission lines for the western Antelope Valley in the vicinity of the Project. This transmission line project in combination with the proposed Project would cumulatively increase the probability of transmission line strikes for special-status bat species in the Northern Region. However, as discussed in Section 3.4.6.1 (Direct and Indirect Effects Analysis) the frequency of transmission line strikes by special-status bats is expected to be quite low despite these cumulative effects, due to the ability of these bat species to detect and avoid transmission lines during echolocation. Therefore, the cumulative impacts of transmission line strikes on special-status bat species resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).
- **The Project would result in the mortality of, and loss of habitat for, special-status mammals (B-35).** Impacts to the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit are cumulatively considerable. The cumulative projects would combine within the regions of occurrence for these species. The proposed Project will not eliminate suitable habitat for Los Angeles pocket mouse, San Joaquin pocket mouse, Tulare grasshopper mouse, and Tehachapi pocket mouse. However, the proposed Project would result in the loss of habitat for northwestern San Diego pocket mouse, southern grasshopper mouse, and San Diego black-tailed jackrabbit. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species. However, construction-related impacts to special-status mammals have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the mortality of, and loss of habitat for, San Diego desert woodrat (B-36).** Impacts to San Diego desert woodrat are cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 3.4-26). These projects include large community developments, including 4,902 acres of grassland, shrub, or woodland habitat that would be impacted. These collective projects would result in the loss of suitable habitat for the San Diego desert woodrat. Continued loss and fragmentation of suitable habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of these species. The proposed Project will eliminate approximately 80 acres of suitable habitat for this species within the Chino and Puente Hills of the proposed Project area. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to San Diego desert woodrat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- **The Project would result in the mortality of, and loss of habitat for, the ringtail (B-37).** Impacts to ringtail are cumulatively considerable within Amargosa Creek, Upper Big Tujunga Creek, Mill Creek, San Gabriel River, Fall Creek, and Tonner Canyon. The Amargosa Creek Improvements Project includes road improvements to Elizabeth Lake Road and flood control improvements to approximately 5 miles of Amargosa Creek in the Leona Valley. This infrastructure improvement project intersects the proposed Project at Amargosa Creek and Elizabeth Lake Road.

Fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Ongoing vehicle and recreation access on the West Fork of the San Gabriel River to access Cogswell reservoir could also cumulatively contribute to the decline of this species. Fuel treatments at these sites will substantially reduce the amount of shrub and tree cover around FS

Administrative Sites within the ANF. These include the treatment of 6.13 acres of Coulter pine forest at Mill Creek Station (Mill Creek Summit along Angeles Crest Highway) and 50.4 acres of Coulter pine forest and mixed chaparral at Shortcut Station in Upper Big Tujunga Canyon (0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road). However, the amount of these habitats that will be cumulatively impacted by these FS projects and the proposed Project within the ANF will be small relative to the home range requirement of a ringtail and the availability of habitat in the ANF of the San Gabriel Mountains (46,882 acres of bigcone Douglas fir-canyon oak forest; 38,782 acres of canyon oak forest; 11,177 acres of coast live oak woodland; and 562 acres of Coulter pine forest; Stephenson and Calcarone, 1999).

There is a total of 1,752 acres of grassland, shrub, and woodland habitat that will be lost due to residential development projects within one mile of Tonner Canyon within the Chino and Puente Hills (Table 3.4-26). However, the proposed Project will impact a small amount of suitable ringtail habitat within Tonner Canyon, and the Tonner Canyon to Carbon Canyon region of the Chino Hills contains more than 2,047 acres of suitable woodland habitat (Spencer 2005). The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable ringtail habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to ringtail have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- The Project would result in mortality of American badgers (Impact B-38).** Impacts to American badger are cumulatively considerable within the Northern and Southern Regions of the proposed Project. In the Northern Region, three large-scale planned community developments, totaling 2,303 acres, are planned for a location near the existing Antelope Substation, within 1.5 miles from the Project. Two other sizeable projects with potential to reduce suitable American badger habitat in the Northern Region are the 6,400-acre PdV Wind Energy facility planned for a location just east of Segment 10 and the 640-acre Antelope Valley Water Bank facility to be located adjacent to the proposed Whirlwind Substation. Impacts to American badger are also cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 3.4-26). These projects include large community developments on currently undeveloped land, including 4,902 acres of grassland, shrub, or woodland habitat. Continued loss and fragmentation of suitable grassland and open shrub habitat in the Antelope Valley and Chino and Puente Hills from ongoing development will contribute to the regional decline of this species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat in these two regions. Implementation of APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to American badger have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).
- The Project would result in the loss of wetland habitats (Impact B-39).** As described in Section 3.4.2 (Affected Environment), these habitat types contain vegetation growing near permanent water sources or under conditions of prolonged saturation. There are 1,116 acres of riparian habitats in the project area, of these approximately 12 acres are anticipated to be affected by construction of the proposed Project (see Tables 3.4-17 and 3.4-18). Throughout California, wetland habitats have been degraded and lost at an alarming rate due to the placement of fill for development. Any impacts to wetland habitat types would be regulated by the CDFG, RWQCB, and the USACE. As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), any impacts to these habitat types are significant and would require mitigation. As such, any Project impacts, should they occur, would also contribute to the cumulative loss of these habitat types when combined with the loss of these habitat types caused by other past and reasonably foreseeable projects, and therefore would be significant. However, the mitigation measures described in Section 3.4.6.1 (Mitigation Measures B-1a [Provide restoration/compensation for impacts to native vegetation communities] ,

B-1b [Implement a Worker Environmental Awareness Program], Mitigation Measure B-2 [Implement RCA Treatment Plan], B-3a [Prepare and implement a Weed Control Plan], H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits], and AQ-1a [Implement Construction Fugitive Dust Control Plan]) for impacts to these habitats will reduce Project impacts. However, though impacts to wetlands from this project are anticipated to be minor based on the acres anticipated to be affected, the impacts to wetland habitats have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of established bird and bat migratory corridors (B-40).** The loss of established bird and bat migratory corridors as a result of transmission line construction is cumulatively considerable within the Northern Region of the Project, where approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 mile) to Segment 5 of the Project. However, as discussed in Section 3.4.6.1 (Direct and Indirect Effects Analysis) these transmission lines are not located along major landbird migration routes and are not expected to have a significant cumulative effect on migratory patterns or migration routes for birds within the Northern Region.

The Antelope Transmission Project in combination with the proposed Project could potentially occur along a significant migratory route in the Antelope Valley for migratory bats, including western red bat and hoary bat. However, despite these cumulative effects, these migratory corridors would not be lost owing to the ability of these bat species to detect and avoid transmission lines during echolocation. Therefore, the cumulative impacts of transmission lines on bird and bat migratory corridors resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).

- **Corona noise would result in disturbance to wildlife (B-41).** As described in Section 3.4.6.1, as the effects of corona noise on wildlife are poorly understood, and it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Animals, especially breeding birds and other wildlife that use sound for communication, would be expected to move away from the line in order to minimize interference with communication. However, because of the availability of habitats in the project area, this would not be expected to constitute a substantial impact. Corona noise is already present along most of the proposed Project, and while the proposed Project will result in louder corona noise for most segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. As such, corona noise from the proposed Project is not expected to combine with noise from other projects in a cumulatively significant manner. Therefore, the cumulative impacts of corona noise to wildlife resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).
- **The Project would result in effects to Management Indicator Species (B-42).** The Project would result in effects to Management Indicator Species. The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. MIS are likely to be subject to various levels of disturbance from implementation of the proposed Project on NFS lands. The total area impacted by the proposed Project is relatively small and includes approximately 272 acres of ground disturbance on the ANF. This represents less than one percent of the total Forest area. However, projects such as fuels treatments and special use permitted activities are proposed on the ANF. These cumulative projects would result in unknown acreages of habitat loss for MIS. To reduce effects of the proposed Project on MIS SCE would implement APM BIO-1, APM BIO-2, APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), AQ-1a (Implement Construction Fugitive Dust Control Plan), and H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). However, the impacts to MIS have the potential to combine with similar impacts of other projects and would be considered significant and unavoidable (Class I).

Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for the proposed Project in Section 3.4.6.1 (Direct and Indirect Effects Analysis) would help to reduce the proposed Project's incremental contribution to cumulative impacts.

However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level for biological resources.

3.4.7 Alternative 3: West Lancaster Alternative

The following section describes the impacts of Alternative 3 (West Lancaster Alternative) on Biological Resources, as determined by the significance criteria listed in Section 3.4.4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. As described in Section 2.3, this alternative would deviate from the proposed route along Segment 4, at approximately S4 MP 14.9, where the new 500-kV transmission line would turn south down 115th Street West for approximately 2.9 miles and turn east for approximately 0.5 mile, rejoining the proposed route at S4 MP 17.9. This re-route would increase the overall distance of Segment 4 by approximately 0.4 mile; however, the number of overall structures would decrease by one due to greater spacing between structures compared to the proposed Project.

The portion of Segment 4 that would be re-routed for Alternative 3 is situated in an area that has previously been used for agriculture. Land use on either side of the re-routed segment is characterized primarily as California annual grassland, with several areas of native wildflower fields and desert wash. With the exception of additional impacts to several additional desert washes, small areas of California annual grassland and wildflower fields, no new impacts to biological resources would be introduced under Alternative 3. The Affected Environment along the rest of the Alternative 3 route in the North Region is identical to the proposed Project. Furthermore, temporary and permanent ground disturbance as it relates to the re-routed portion of the alternative would amount to only incremental increases in impacts to these additional areas.

3.4.7.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to Biological Resources are introduced in Section 3.4.4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion.

Impacts to Riparian or Natural Communities (Criterion BIO1)

Impacts associated with Criterion BIO1 for Alternative 3 would be the same as impacts associated with this criterion for the proposed Project. Although this alternative introduces a re-route for an approximately 0.4-mile section of the proposed transmission line in the Northern Region, the number of towers constructed would be one less than the proposed Project and the re-route would cross identical habitat types as the proposed Project (California annual grassland, wildflower fields, and desert wash). Furthermore, temporary and permanent ground disturbance as it relates to the re-routed portion of the alternative would be primarily due to the new access and spur roads and would result in impacts approximately the same size and magnitude as the proposed Project. The impacts and their associated mitigation measures that fall under Criterion BIO1 are summarized in the following paragraphs. Please see Section 3.4.6.1 (Direct and Indirect Effects Analysis) for a detailed description of these impacts, as they are the same as discussed for the proposed Project.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

With the exception of several additional desert washes, small areas of California annual grassland, and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be

introduced under Alternative 3. Furthermore, temporary and permanent ground disturbance would be approximately the same size and magnitude, or less than the proposed Project. As described in detail in Section 3.4.6.1, with the exception of agricultural or barren/developed land, construction activities that result in the disturbance to the plant communities identified above would be considered a significant impact without mitigation. Therefore, Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to native vegetation to less than significant (Class II) and no additional mitigation is required.

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

Because of the presence of several additional desert washes within the Alternative 3 alignment and overall loss of desert wash and riparian habitat within California, along with the role of these habitats in providing functional hydrological connectivity to downstream waters and their suitability to support several special-status species, the loss of desert wash habitat associated with Alternative 3 would be significant without mitigation. SCE intends to avoid these areas to the maximum extent practicable; however, some desert wash habitat would be impacted in the re-routed portion of this alternative. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II) levels and no additional mitigation is required.

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

Impacts associated with noxious weeds would be the same as described for the proposed Project in the Central and Southern Regions. With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. However, these additional impacted areas would marginally increase the potential for the establishment and spread of noxious weeds in the Northern Region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), would reduce impacts to less than significant (Class II). Therefore, no additional mitigation measures are required to minimize impacts due to noxious weeds.

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Compared to the proposed Project, no new types of impacts to biological resources would be introduced under Alternative 3. However, because implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers, construction disturbance would be slightly smaller in size and magnitude for some terrestrial wildlife species. Impacts would be identical to the proposed Project in all other areas of this alternative. Therefore, Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a

(Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to less than significant (Class II) and no additional mitigation measures are required.

Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds and raptors.

With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. However, because implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile, the potential loss of nesting birds would be slightly greater due to the increased line length and potential for collision. See Impact B-21 for more information related to avian collisions with transmission lines. Impacts would be identical to the proposed Project in all other areas of this alternative. Therefore, Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to nesting birds. Implementation of these mitigation measures would reduce impacts to less than significant (Class II). No additional mitigation measures are required.

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Compared to the proposed Project, implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile but decrease the number of transmission towers along Segment 4 by one. The impacted area would be smaller in size, and would result in an incremental decrease in the loss of foraging habitat for wildlife species. Impacts would be identical to the proposed Project in all other areas of this alternative. These impacts would require the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). Implementation of the specified mitigation measures would reduce impacts to less than significant (Class II) and no additional mitigation measures are required.

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed plant and wildlife species. Impacts to these species are detailed below. Impacts to individual species would be the same as described for the proposed Project (Section 3.4.6.1).

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Compared to the proposed Project, the Alternative 3 re-route would result in the substantially similar impacts related to the loss of habitat for, and potential disturbance to rare plants, if present. While Alternative 3 would increase the length of the transmission line by 0.4 mile, it would result in one fewer

transmission structure as compared to the proposed Project, which would incrementally decrease the potential to disturb listed plants. However, this alternative would potentially require the construction of new access and/or spur roads, which could impact listed plants, if present. The implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.) would reduce impacts to endangered, threatened, and proposed plant species, if present, to less-than-significant levels (Class II). No additional mitigation measures are required.

Impact B-8: The Project would result in the loss of California red-legged frog and Mountain yellow-legged frog.

Compared to the proposed Project, no new impacts to biological resources would be introduced under Alternative 3. Suitable habitat for the California red-legged frog and mountain yellow-legged frog would not be reduced under this alternative, as suitable habitat is not present for these species within the Alternative 3 re-route. Therefore, impacts to these species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). The implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species a less-than-significant level (Class II). Therefore, no additional mitigation measures are required to minimize impacts to these amphibians.

Impact B-9: The Project would result in the loss of arroyo toad.

Compared to the proposed Project, Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers, thus impacts would be slightly less in size and magnitude for some wildlife species. However, impacts in the re-routed portion of this alternative would not affect arroyo toad, as suitable habitat is not present for this species within the Alternative 3 re-route. Therefore, impacts to arroyo toad would be exactly the same as those described for the proposed Project (Section 3.4.6.1). SCE would be required to implement APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring). These measures include, but are not limited to, avoiding the peak breeding period, the placement of exclusion fencing if animals are present, implementation of a capture

and release program, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required to minimize impacts to the arroyo toad.

Impact B-10: The Project would result in the loss of desert tortoise.

Compared to the proposed Project, the implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, and impacts would be slightly less in size and magnitude for some wildlife species. Impacts in the re-routed portion of this alternative will not affect suitable habitat for desert tortoise, as suitable habitat is not present for this species within the Alternative 3 re-route. Therefore, impacts to desert tortoise would be exactly the same as described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required.

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

Compared to the proposed Project, implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one. However, potential nest sites for common raven as a result of tower construction are not expected to change as a result of implementation of Alternative 3 and impacts would be the same as described for the proposed Project (Section 3.4.6.1). These impacts would not require mitigation because potential nest sites for common raven as a result of tower construction are not expected to increase appreciably. Therefore, additional populations of common raven and their predation pressure on the desert tortoise are not expected to result from additional towers, and impacts are expected to be less than significant (Class III).

Impact B-12: The Project would result in the loss of special-status fish.

Compared to the proposed Project, implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one. However, suitable habitat for special-status fish is not present within the Alternative 3 re-route. Therefore, impacts to special-status fish would be identical to those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring) and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), would reduce these impacts to less than significant levels (Class II). Therefore, no additional mitigation measures are required.

Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.

Compared to the proposed Project, the implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, and impacts would be slightly less in size and magnitude for some wildlife species. Impacts in the re-routed portion of this alternative will not affect critical habitat for Santa Ana sucker, as critical habitat is not present for this species within the Alternative 3 re-route. Therefore, impacts to Santa Ana sucker critical habitat would be exactly the same as described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce this impact to less than significant (Class II). Therefore, no additional mitigation measures are required.

Impact B-14: The Project would result in the loss of California condor.

Implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, and impacts would be slightly smaller in size and magnitude for some species. The Alternative 3 re-route will not substantially reduce suitable habitat for California condor or substantially increase impacts associated with micro-trash ingestion. Therefore, impacts to this species would be the same as those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion, would reduce impacts to this species, if present, to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

Compared to the proposed Project, no new impacts to listed riparian birds would occur, as suitable habitat is not present for these species within the Alternative 3 re-route. Therefore, impacts would be exactly the same as those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure

AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would reduce impacts to listed riparian birds, if present, to less than significant (Class II). Therefore, no additional mitigation measures are required.

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

Compared to the proposed Project, implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one. However, these impacts will not affect the likelihood of loss of coastal California gnatcatchers, as suitable habitat is not present for this species within the Alternative 3 re-route. Therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required.

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

As described above, suitable habitat for this species does not occur in the Alternative 3 re-route and no additional impacts to this species are associated with the alternative. Therefore, impacts to coastal California gnatcatcher habitat would be the same as described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Impact B-18: The Project would disturb nesting Swainson's Hawks.

With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. Because implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile, potential disturbance to nesting Swainson's hawks would be slightly greater in magnitude if suitable nest structures are available adjacent to construction areas. However, these added impacts would be marginal and would not substantially increase impacts associated with nest disturbance as compared to the proposed Project. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

Under Alternative 3 impacts to Swainson's hawk foraging habitat would be marginally smaller than those described for the proposed Project (Section 3.4.6.1) due to the fact that there would be one fewer

transmission tower. Incremental impacts to suitable Swainson's hawk foraging habitat associated with Alternative 3 would not substantially reduce the habitat available for the species, reduce the number, cause populations to drop below self-sustaining levels, restrict the range, or threaten to eliminate populations. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Because implementation of Alternative 3 would increase the length of conductor lines along Segment 4 by 0.4 mile, the impacted area would be greater in size, and the potential for electrocution of State and/or federally protected birds would be slightly greater. However, the increase in the frequency of transmission line electrocutions due to this 0.4-mile addition of transmission lines is expected to be extremely low. Therefore, the number of electrocution events is still expected to be insufficient to substantially reduce the number of State and/or federally protected bird species. SCE would implement APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006). However, because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. Impacts to State and/or federally protected birds resulting from electrocution would be less than significant (Class III) and no additional mitigation is required.

Impact B-21: The Project would result in result in collision with overhead wires by State and/or federally protected birds.

Because implementation of Alternative 3 would increase the length of conductor lines along Segment 4 by 0.4 mile, the impacted area would be greater in size, and the potential for collisions with overhead wires by State and/or federally protected birds would be slightly greater. However, the increase in the frequency of transmission line strikes due to this 0.4-mile addition of transmission lines is expected to be extremely low. Therefore, the number of collision events with overhead wires is still expected to be quite low and insufficient to substantially reduce the number of State and/or federally protected bird species. This impact would require implementation of APM BIO-9 and the incorporation of raptor safety protection into the project design (i.e. tower/conductor [lines] on NFS lands). Line collisions as a result of Alternative 3 implementation will not substantially reduce the number of State and/or federally protected birds, cause populations to drop below self-sustaining levels, restrict the range, or threaten to eliminate populations. Therefore, impacts to State and/or federally protected birds resulting from transmission line collisions would be considered less than significant (Class III) and no additional mitigation is required.

Impact B-22: The Project would result in disturbance to Mohave ground squirrel.

With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. Because implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, impacts would

be slightly smaller in size and magnitude for some species. Impacts related to the implementation of Alternative 3 would not increase the likelihood of disturbance to Mohave ground squirrel, as suitable habitat was not identified for this species within the Alternative 3 re-route. Therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-4 through BIO-7 and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Impact B-23: The Project would result in loss of candidate, Forest Service Sensitive, or special-status plant species.

Compared to the proposed Project, implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one. Impacts would be slightly smaller in size and magnitude for several special-status plant species, such as California androsace and Peirson's morning-glory, if present. Impacts to these species would require avoidance (Mitigation Measure B-7, Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), and, if avoidance is infeasible, off-site acquisition and preservation of occupied habitat (Mitigation Measure 23, Preserve offsite habitat/management of existing populations of special-status plants). Temporarily impacted habitat would be restored upon completion of construction (Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities). As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). In addition, a Worker Environmental Awareness Program will be implemented (Mitigation Measure B-1b, Implement a Worker Environmental Awareness Program), erosion control would be implemented (H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and dust control measures would be implemented (Mitigation Measure AQ-1a, Implement Construction Fugitive Dust Control Plan). Implementation of these mitigation measures would reduce impacts to less than significant (Class II). No additional mitigation measures are required.

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Alternative 3 would not increase the likelihood of mortality, injury, or loss of habitat for southwestern pond turtle as suitable habitat was not identified for this species within the Alternative 3 re-route. Therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7, and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program),

Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would prevent mortality or injury of pond turtles, avoid damage or destruction of nesting areas or mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required.

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Compared to the proposed Project, Alternative 3 would not increase the likelihood of mortality, injury, or loss of habitat for two-striped garter snakes and south coast garter snakes as suitable habitat was not identified for these species within the Alternative 3 re-route. Therefore, impacts to these species would be exactly the same as those described for the proposed Project and would require implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to avoid injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required.

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

Alternative 3 would not increase the likelihood of mortality, injury, or loss of habitat for Coast Range newts as suitable habitat was not identified for this species within the Alternative 3 re-route. Therefore, impacts to this species would be exactly the same as described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required.

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.

Implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, and impacts would be slightly smaller in size and magnitude for the following three special-status terrestrial herpetofauna species, if present: 1) San Diego horned lizard, 2) California horned lizard, and 3) silvery legless lizard. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). The other eight special-status terrestrial herpetofauna species identified in Section 3.4.6.1 do not occur within the area of potential impacts of the Alternative 3 re-route, and for those species impacts are identical to the proposed Project.

Impact B-28: The Project would disturb wintering mountain plovers.

With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. Because implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one, impacts would be slightly smaller in size and magnitude for some species. These impacts will not increase the likelihood of disturbance to wintering mountain plovers as the total acreage of impacted habitat is small relative to regional availability, and implementation of Alternative 3 would not restrict the range of the species. Therefore, these impacts would not require mitigation. Impacts to wintering mountain plovers resulting from construction disturbance are considered less than significant (Class III). No additional mitigation measures are required.

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

Compared to the proposed Project, the implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile but decrease the number of transmission towers along Segment 4 by one. The impacted area affected by this alternative would be smaller in size, and the loss of occupied burrowing owl habitat would potentially be slightly smaller in magnitude than that described for the proposed Project. Impacts would be identical to the proposed Project in all other areas of this alternative. These impacts would require the implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of the specified mitigation measures for the proposed Project would reduce impacts to less than significant (Class II).

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

Alternative 3 would not increase the likelihood of loss of occupied California spotted owl habitat as suitable habitat was not identified for this species within the Alternative 3 re-route. Therefore, impacts to

California spotted owl would be exactly the same as the proposed Project (Section 3.4.6.1) and would require implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Impacts to the California spotted owl resulting from loss of occupied habitat are considered less than significant with mitigation incorporated (Class II). Therefore, no additional mitigation measures are required.

Impact B-31: The Project would disturb nesting California spotted owls.

Alternative 3 would not increase the likelihood of disturbance to nesting California spotted owls as suitable habitat was not identified for this species within the Alternative 3 re-route. Therefore, impacts would be exactly the same as those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Construction-related disturbance that causes nest abandonment and/or loss of reproductive effort would constitute a significant impact and violate the MBTA. With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile, the impacted area would be slightly greater in size, and disturbance to nesting avian species of special concern would potentially be slightly greater in magnitude than that described for the proposed Project (Section 3.4.6.1). However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No additional mitigation measures are required.

Impact B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.

Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile, the impacted area would be slightly greater in size. Potential for mortality of and loss of habitat for special-status bat species would be slightly greater in magnitude over the proposed Project if suitable trees, particularly trees ≥ 12 inches in diameter at 4.5 feet above grade with loose bark or other cavities are present prior to construction activities. In all areas other than the re-route, impacts to special-status bat species would be exactly the same as described for the proposed Project. If active hibernacula and maternity roosts are present and cannot be avoided, impacts would be significant. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a

(Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II).

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

The Project would potentially impact these species through the direct take of individuals from fatal strikes with transmission lines. Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile, the impacted area would be greater in size, and the potential for transmission line strikes would be slightly greater in magnitude. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inches in size (Vaughan 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inches in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species (Class III).

Impact B-35: The Project would result in mortality of and loss of habitat for, special-status mammals.

Compared to the proposed Project, no new impacts to biological resources would be introduced under Alternative 3. The area of suitable habitat for the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, and Northwestern San Diego pocket mouse impacted by the Alternative 3 re-route would be slightly smaller in size than the proposed Project. Although the habitat impacted by implementation of Alternative 3 would not substantially reduce available habitat there remains the possibility of mortality to these species during construction and maintenance activities. Implementation of APM BIO-1 and APM BIO-5 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize impacts to special-status mammal species. Therefore, impacts to these species as a result of implementation of Alternative 3 would be less than significant with mitigation incorporated (Class II). Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit do not occur within the Alternative 3 re-route alignment and therefore, impacts would be identical to the proposed Project.

Impact B-36: The Project would result in mortality of San Diego desert woodrat.

Alternative 3 would not increase the likelihood of mortality to San Diego desert woodrat as the species does not occur within the Alternative 3 re-route. Therefore, impacts to this species would be identical to those described for the proposed Project (Section 3.4.6.1). Construction activities would substantially reduce regional populations of this species in the Chino and Puente Hills without mitigation. Impacts to this species as a result of Alternative 3 implementation would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures are required.

Impact B-37: The Project would result in mortality of and loss of habitat for, the ringtail.

Implementation of Alternative 3 would not increase the likelihood of mortality to the ringtail as the species does not occur within the Alternative 3 re-route. In all other areas, impacts to ringtail would be identical to those described for the proposed Project (Section 3.4.6.1) and would require the implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan), which would reduce project impacts to ringtail to a less-than-significant level (Class II). No additional mitigation measures are required.

Impact B-38: The Project would result in mortality of American badgers.

Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 miles but decrease the number of transmission towers along Segment 4, the impacted area would be slightly smaller in size, and potential mortality of American badgers would be slightly smaller in magnitude. However, any potential mortality would be quite small relative to the overall population size and implementation of APMs BIO-1, BIO-4, BIO-5, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No additional mitigation measures are required.

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

With the exception of several additional desert washes and small areas of California annual grassland and wildflower fields that would be subject to disturbance, no new impacts to native vegetation would be introduced under Alternative 3. Implementation of Alternative 3 would increase the length of the Segment 4 alignment by 0.4 mile but decrease the number of transmission towers by one. However, these impacts would not increase the likelihood of adverse effects on federally protected wetlands as federally protected wetlands do not occur within the Antelope Valley and the Alternative 3 re-route. Therefore, impacts would be identical to those described for the proposed Project (Section 3.4.6.1). Any loss of these habitats associated with the proposed Project is significant. If avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) will reduce the impacts to federally protected wetlands to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required.

**Interfere substantially with native fish or wildlife movements, corridors, or nursery sites
(Criterion BIO5)**

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

The Project would potentially impact migrating bird and bat species through interference with established migratory corridors as a result of fatal collisions with transmission lines. Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile, the impacted area would be greater in size, and interference with bird and bat migratory corridors would be slightly greater in magnitude. However, the frequency of transmission line strikes is still expected to be extremely low. Therefore, implementation of Alternative 3 would not substantially interfere with established bird or bat migratory corridors, and impacts to migrating bird and bat species would be less than significant (Class III).

Impact B-41: Corona noise would result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Because implementation of Alternative 3 would increase the length of Segment 4 by 0.4 mile, the impacted area would be greater in size, and corona noise would be slightly greater in magnitude compared to the proposed Project. However, as the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Corona noise is already present along most of Alternative 3, and while Alternative 3 would result in louder corona noise for most segments and a new sources of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 3 would not result in substantial impacts due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. The Alternative 3 re-route does not occur on NFS lands, and therefore impacts to MIS would be exactly the same as described for the proposed Project. Impacts to these species as a result of Project implementation would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre- and during construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures are required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

Because of the extensive planning involved in project design, including implementation of APMs BIO-1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative

3 is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act. Compared to the proposed Project, with the exception of several additional desert washes and additional areas of California annual grassland and wildflower fields that may be impacted, no new impacts to biological resources would be introduced under Alternative 3. Likewise, no additional policies or ordinances apply to the Alternative 3 re-route. Therefore, no impact would occur.

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Compared to the proposed Project, with the exception of several additional desert washes, and additional areas of California annual grassland and wildflower fields that may be impacted, no new impacts to biological resources would be introduced under Alternative 3. Implementation of Alternative 3 will not affect the conservation goals of the WMPHCP. Therefore, no impact would occur.

3.4.7.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternative 3 (West Lancaster Alternative). This alternative consists of a brief re-route of the proposed transmission line just north of Antelope Substation, which would add approximately 0.4 mile to the length of the route. The remainder of this alternative route (south of Antelope Substation) would be identical to that of the proposed Project and would, therefore, result in identical impacts as the proposed Project. The re-routed portion of the Alternative 3 route generally parallels the proposed Project route to the west. As a result, this alternative traverses the same or similar habitat types as the portion of the proposed Project route it is proposed to replace, would require the same types of construction activities to build, and would result in the same operational capacity as the proposed Project. Based on the substantial similarity of Alternative 3 to the proposed Project, this alternative's contribution to cumulative impacts would be identical to that of the proposed Project.

Geographic Extent

Alternative 3 only differs from the proposed Project for a very small portion of the proposed route in the City of Lancaster, near Antelope Substation. This area is still encompassed by the geographic extent of the cumulative analysis defined for Alternative 2 in Section 3.4.6.2. Therefore, the geographic extent of the cumulative analysis for Alternative 3 is exactly the same as that for Alternative 2 and would include all of the Northern, Central, and Southern Regions.

Existing Cumulative Conditions

The existing cumulative conditions for Alternative 3 are exactly the same as for Alternative 2, as described in Section 3.4.6.2.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 3 would be exactly the same as Alternative 2, described in Section 3.4.6.2.

Cumulative Impact Analysis

As described in Section 3.4.6.2, impacts associated with Alternative 3 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The minor re-route of the proposed Project transmission line associated with Alternative 3 would not differ from the proposed Project's contribution to cumulative impacts and therefore, cumulative impacts of Alternative 3 would be exactly the same as cumulative impacts for Alternative 2.

Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 3 in Section 3.4.7.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level.

3.4.8 Alternative 4: Chino Hills Route Alternatives

The following section describes impacts of Alternative 4 (Chino Hills Routes) on Biological Resources, as determined by the significance criteria listed in Section 3.4.4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. As described in Section 2.4, this alternative is identical to the proposed Project for all Segments except Segment 8A. The route would deviate from the proposed Project beginning approximately 0.6 mile east of Tonner Canyon Road or 2 miles east of State Route 57 along Segment 8A. The proposed routes for Alternative 4 would cross through parts of Orange County, which the proposed Project (Alternative 2) would not enter, and San Bernardino County. The routing options for Alternative 4 would also cross through the Chino Hills State Park (CHSP). The four different routing options (Routes A through D) which are included under Alternative 4 are discussed in further detail below.

Route A

This alternative would deviate from the proposed Project route 0.6 mi east of Tonner Canyon Road along Segment 8A and run parallel to the existing Walnut/Olinda-Mira Loma 220-kV transmission line for 6.2 miles, 2.3 miles of which would be within the CHSP. Route A would be situated within an existing utility corridor, but would require that the corridor be widened by 150 feet along the length of Route A. In addition, Route A would require the installation of a new switching station within the CHSP. The size of the new switching station would be approximately 5 acres in size.

Route B

The proposed Route B would follow the same path as Route A into CHSP but would continue to just beyond the eastern Park boundary and terminate at a new switching station immediately outside of the CHSP. As with the Route A alternative, the new switching station for Route B would be approximately 5 acres in size. Route B would travel through CHSP for approximately 4.6 miles. Approximately 150 feet of additional ROW would be required to accommodate the new 500-kV double-circuit structures along the re-routed portion of this alternative.

Route C

The proposed Route C alternative would follow the same path as Routes A and B up to the CHSP boundary. At this point, the alternative route would turn east along a new approximately 300-foot-wide

ROW for approximately 1.8 miles, which would remain just north of the CHSP boundary, to a new 500-kV gas-insulated switching station. Approximately 3.6 miles of new ROW would be required to re-route the existing single-circuit 500-kV T/Ls in and out of the new switching station. The new north-south re-route into the switching station (1.6 miles within CHSP) would require an approximately 330-foot wide ROW. The new east-west re-route beginning at the switching station and proceeding north and east around raptor ridge (2.0 miles, of which 1.7 miles is within CHSP) would require an approximately 480-foot wide ROW. Proposed Route C would also require the removal of existing transmission lines from within the CHSP. The proposed switching station for Route C would be located immediately north of Raptor Ridge and adjacent to Southern sycamore and coast live oak riparian forest.

Route D

The proposed Route D alternative would follow the same path as Route C but would follow the northern boundary of CHSP for approximately 4.0 miles before crossing through the northeastern corner of the CHSP for approximately 1.4 miles. At this point, the new 500-kV T/L would turn northeast again parallel and north of the existing T/Ls for approximately 0.5 mile (outside CHSP) before terminating at a new 500-kV gas-insulated switching station located outside of CHSP. The proposed switching station for Route D would be the same size (approximately 5 acres) and in the same location as that proposed for Route B.

3.4.8.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to Biological Resources are introduced in Section 3.4.4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion. Differences in the impacts associated with routing options of Alternative 4 are described as appropriate. If no individual route will result in a significant increase or decrease of impacts to biological resources over other routes, a separate route-specific discussion is not provided.

Impacts to Riparian or Natural Communities (Criterion BIO1)

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

Alternative 4 follows the same route as the proposed Project, but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Alternative 4 traverses similar habitats as the proposed Project but also crosses two new habitats (Mixed Chaparral Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub), and comprises a net increase in the size and magnitude of direct and indirect impacts to native vegetation as a result of increased construction activity in undeveloped areas. These impacts will result in the direct removal of plants during the course of construction, clearing and grading associated with the placement of additional larger towers and the creation of new ROW and expansion of existing ROW, the loss of native seed banks, and changes to the topography and drainage of a site such that the capability of the habitat to support native vegetation is impaired. Furthermore, construction may also facilitate conditions favorable for the establishment of exotic weeds that prevent the establishment of desirable vegetation (see Impact B-3 below). Construction and removal of towers would impact approximately 25.2 acres for Route A, 44.2 acres for Route B, 60.0 acres for Route C, and 44.2 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a

Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporangin), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

Alternative 4 traverses similar riparian habitats as the proposed Project, and, compared to the proposed Project, would result in similar types of impacts but comprise a net increase in the size and magnitude of direct and indirect impacts to riparian habitat as a result of increased construction activities in undeveloped areas. These activities include the removal of additional towers, clearing of additional staging and pulling areas, and additional improvements to existing roads as well as construction of new roads that would be necessary for increased construction activities. Direct impacts to desert wash and riparian habitat would include the temporary disturbance and permanent removal of native vegetation within these communities. Indirect impacts to these communities would be similar to those discussed for native vegetation communities (Impact B-1), above. These would include increased sediment transport, alterations to existing topographical and hydrological conditions, fugitive dust accumulation, and the introduction of non-native, invasive plant species. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

Route A. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route A of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek, Chino Creek, and Cucamonga Creek. However, Route A may affect Aliso Creek and 11 unnamed stream crossings with riparian habitat. No riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route A, would be less than significant (Class II).

Route B. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route B of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek, Chino Creek, and Cucamonga Creek. However, Route B may affect Aliso Creek and 19 unnamed stream crossings with riparian habitat. Approximately 0.2 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route B, would be less than significant (Class II).

Route C. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route C of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek, Chino Creek, and Cucamonga Creek. However, Route C may affect Aliso Creek and 10 new unnamed stream crossings with riparian habitat. Approximately 1.1 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final

engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route C, would be less than significant (Class II).

Route D. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route D of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek, Chino Creek, and Cucamonga Creek. However, Route D may affect Aliso Creek and 28 new unnamed stream crossings with riparian habitat. Approximately 0.8 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route D, would be less than significant (Class II).

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, Alternative 4 would facilitate a net increase in the establishment and spread of noxious weeds as a result of increased construction activity in undeveloped areas. Activities of the alternative that would facilitate noxious weed establishment include the removal of additional towers, construction of new towers, clearing of additional staging and pulling areas, and additional improvements to existing roads as well as construction of new roads that will be necessary for increased construction activities. The potential introduction or spread of noxious and invasive weeds would occur primarily during construction activities, but this impact would continue during operation and maintenance phases. The introduction of noxious and invasive weeds would be related to ground disturbance from clearing and grading; road maintenance; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or wattles that contain seeds of non-native plant species; and enhanced public access to the project corridor during and after construction. Additionally, weed seeds stuck to equipment or clothing are often spread to new areas by construction or maintenance personnel. Implementation of Alternative 4 would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to be carried into areas that previously were isolated from sources of noxious weed seeds. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce impacts to less than significant (Class II).

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub) and, compared to the proposed Project, would result in similar types of impacts but comprises a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased construction activities in undeveloped areas. These activities include increased clearing, grading, and tower

construction in undisturbed portions of CHSP. Direct impacts to wildlife associated with construction of the proposed Project would include mortality from trampling or crushing; increased noise levels due to heavy equipment and helicopter use; increased vehicular and human presence along existing access roads and riparian areas; displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions; fugitive dust; and increased erosion and sediment transport. Indirect effects to wildlife as a result of the proposed Project include the introduction of non-native, invasive plant species, alterations to existing hydrological conditions, and exposure to contaminants. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds and raptors.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub) and could potentially result in disturbance to nesting bird species that are restricted to these habitats. Compared to the proposed Project, this alternative would result in similar types of impacts but would result in a net increase in the size and magnitude of direct and indirect impacts to nesting birds associated with increased ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in undeveloped areas of the Chino Hills. Direct impacts to nesting birds or raptors as a result of construction activities for the proposed Project could include the removal or disturbance of vegetation that supports nesting birds, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. These factors could result in the disruption of breeding activity, and subsequent nest failure. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. As noted in Impact B-1, this alternative impacts two new habitats for wildlife, including Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub, which could provide suitable foraging habitat for a variety of wildlife species. Compared to the proposed Project, Alternative 4 would result in similar types of impacts but would comprise a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity, including tower pad preparation and construction and grading of new access roads. Direct impacts would include the permanent removal and temporary disturbance of common and rare vegetation communities utilized as foraging habitat for both common and rare wildlife, fugitive dust, and increased noise levels due to heavy equipment and helicopter operations occurring in these areas. Indirect impacts to foraging habitat could include alterations to existing topographical and

hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weed colonies. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) would reduce impacts to less than significant (Class II).

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub) that may contain endangered, threatened, or proposed plant species, and, compared to the proposed Project, comprises a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas. Direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower pad preparation, clearing helicopter staging areas, and the construction, grading, and widening of new spur roads and existing access roads. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. However, the implementation of Mitigation Measures AQ-1a (Fugitive dust control), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), and H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) would reduce impacts to endangered, threatened, and proposed plant species to less-than-significant levels (Class II). Take of federally and/or State-listed plant species through direct mortality or the loss of occupied habitat would only be authorized in the context of a Biological Opinion issued by the FWS and/or an Incidental Take Authorization from CDFG.

Impact B-8: The Project would result in the loss of California red-legged frogs and mountain yellow-legged frogs.

Each route of Alternative 4 would result in the additional loss of undeveloped habitat (including riparian) within the Chino Hills. However, these added impacts would not reduce populations of California red-legged frogs and mountain yellow-legged frogs because this portion of the Project is outside the occupied range of these species. Therefore, impacts to these species associated with this alternative would be identical to the proposed Project. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality

permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species to a less-than-significant level (Class II).

Impact B-9: The Project would result in the loss of arroyo toads.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not reduce suitable habitat for the arroyo toad because this portion of the Project is outside the known range of this species. Therefore, impacts to arroyo toads associated with this alternative would be identical to the proposed Project. APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring) are proposed to offset impacts to this species. These measures include, but are not limited to, avoiding the peak breeding period, the placement of exclusion fencing if animals are present, implementation of a capture and release program, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

Impact B-10: The Project would result in the loss of desert tortoises.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not take place within the range of the desert tortoise and would not result in additional impacts to this species. Therefore, impacts to desert tortoises associated with this alternative would be identical to the proposed Project. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct presence or absence surveys for desert tortoise and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not take place within the range of the desert tortoise and would not require mitigation because nest sites for common raven are not expected to increase appreciably as a result of tower construction. Therefore, populations of common ravens, and their predation pressure on the desert tortoise, are not expected to result from additional towers, and impacts would be less than significant (Class III).

Impact B-12: The Project would result in the loss of special-status fish.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas, the Santa Ana speckled dace and unarmored threespine stickleback do not occur within the Chino Hills and would not be affected by re-routes associated with Alternative 4. As the distribution of Santa Ana sucker and arroyo chub is limited to the Aliso Creek watershed within Alternative 4, which comprises many seasonal drainages, construction activities associated with Alternative 4 could result in injury or mortality to these species, if present. If special-status fish species are present, direct impacts could include mortality due to crushing by heavy equipment and vehicles and water quality degradation caused by increased sedimentation, erosion, or accidental chemical spills. Indirect impacts could include loss of suitable breeding and spawning habitat, removal of riparian and aquatic vegetation, and decreased water quality due to sedimentation and erosion. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce these impacts to less-than-significant levels (Class II).

Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana Sucker.

Critical habitat for the Santa Ana sucker does not occur in the area of the Alternative 4 re-routes. Therefore, impacts to critical habitat for this species would be exactly the same as described for the proposed Project. Mitigation measures have been identified that would minimize impacts to Santa Ana sucker critical habitat. These measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). Implementation of these measures would reduce impacts to Santa Ana sucker critical habitat to less than significant (Class II).

Impact B-14: The Project would result in the loss of California condor.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats and, compared to the proposed Project, would result in similar types of impacts but comprises a net increase in the size and magnitude of direct and indirect impacts associated with additional road grading and tower construction, increased construction debris, litter, leaking equipment, and increased vehicle traffic resulting in road kills. In addition, this alternative would introduce 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), or 9.8 (Route D) miles of new transmission line in and around Chino Hills State Park. However, these impacts would occur outside of the known range of California condor. Therefore, impacts associated with this alternative would be identical to those described for the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to

native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-8b (Conduct biological monitoring), and B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion, and reduce impacts to this species to less-than-significant levels (Class II). Project actions that result in the take of this species would only be authorized through the context of a Biological Opinion from the FWS.

Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat as a result of additional road grading and tower construction immediately adjacent to riparian habitats. Construction and removal of towers would impact no riparian habitat for Route A, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. Direct impacts to southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads and altered hydrology. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Increased construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, which would constitute take. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to these species to less-than-significant levels (Class II).

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. There are two recent CNDDDB records (1992, 2002) of coastal California gnatcatcher within 1.3 miles of Alternative 4. Compared to the proposed Project, this alternative would result in similar types of impacts but would result in a net increase in the size and magnitude of direct and indirect impacts to coastal California gnatcatchers as a result of additional ground-disturbing activity. Construction impacts include tower pad preparation and

assembly and grading of new ROW and access roads within the Chino Hills. The removal of habitat in these areas during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Noise from construction, which would occur in many sections of the Chino Hills, could also adversely affect nesting birds, including gnatcatchers. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take. However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatchers and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

Construction activities, including the installation of permanent structures and/or roads, would result in the loss of critical habitat on Segments 7 and 8. Alternative 4 would result in a similar loss of Coastal Sage Scrub along Segment 8A relative to the proposed Project. Some of this may be occupied habitat for the coastal California gnatcatcher. Take of this federally and State-listed species through loss of occupied habitat and/or modification of designated critical habitat would only be authorized in the context of a Biological Opinion issued by the FWS.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative approaches within varying distances of critical habitat in the CHSP area, and Route C is located partially within critical habitat. Route C would result in approximately 11 acres of disturbance along 1.9 miles within designated critical habitat. Impacts to critical and/or occupied habitat for this species are similar to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatchers and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Route A. Route A approaches within 0.3 mile of critical habitat for coastal California gnatcatcher but does not impact critical habitat for this species. This route is within 1.0 mile of a CNDDDB (1992) record for coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. With implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route A, would be less than significant (Class II).

Route B. Route B approaches within 0.3 mile of critical habitat for coastal California gnatcatcher but does not impact critical habitat for this species. This route is within 1.0 mile of a CNDDDB (1992) record for coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. With implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route B, would be less than significant (Class II).

Route C. Route C occurs partially within critical habitat for this species. Approximately 1.9 miles of transmission line would occur within critical habitat, and construction/removal of 13 structures would occur resulting in approximately 11.1 acres of disturbance to California gnatcatcher critical habitat. This route is within 1.3 miles of a CNDDDB record for coastal California gnatcatcher in

CHSP immediately south of Telegraph Canyon. However, with implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route C, would be less than significant (Class II).

Route D. Route D approaches within 0.6 mile of critical habitat for coastal California gnatcatcher but does not impact critical habitat for this species. Route D approaches within 0.4 mile of a CNDDDB record (2002) for coastal California gnatcatcher immediately east of Bane Canyon on the edge of CHSP. Another CNDDDB record for this species occurs within 1.3 miles of Route D near Telegraph Canyon in CHSP. With implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route D, would be less than significant (Class II).

Impact B-18: The Project would disturb nesting Swainson's hawks.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas compared to the proposed Project, these added impacts would not increase disturbance of nesting Swainson's hawks because Alternative 4 is outside of the breeding range for this species. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in a net decrease, compared to the proposed Project, in marginal foraging habitat for Swainson's hawks as a result of tower pad assembly, grading of new access roads, and construction of a new switching station within grasslands of the Chino Hills. Therefore, impacts to this species are incrementally greater than those described for the proposed Project (Section 3.4.6.1) but would be reduced to a less-than-significant level (Class II) with the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in incremental increases in the frequency of electrocution of State and/or federally protected birds as the distance of transmission lines that occur within natural habitats are greater along Alternative 4 than the proposed Project. However, implementation of APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) would occur. Because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. These measures would reduce impacts to less than significant (Class III).

Impact B-21: The Project would result in collision with overhead wires by State and/or federally protected birds.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in incremental increases in the frequency of collisions of State and/or federally protected birds as the distance of transmission lines that occur within natural habitats are greater along Alternative 4 than the proposed Project. However, with implementation of APM BIO-9 and the incorporation of raptor safety protection into the project design (i.e. tower/conductor [lines] on NFS lands), impacts to State and/or federally protected birds resulting from transmission line collisions would be less than significant (Class III).

Impact B-22: The Project would result in disturbance to Mohave ground squirrel.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase disturbance to Mohave ground squirrel, as suitable habitat is not present for this species within the re-routed portions of Alternative 4. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-7 and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II).

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Impact B-23: The Project would result in loss of candidate, Forest Service Sensitive, or special-status plant species.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. This Alternative would result in similar impacts as the proposed Project to candidate, FS Sensitive, or special-status plant species, but comprise a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas. Two special-status plant species, Catalina mariposa lily and California walnut, were identified during surveys of the Alternative 4 re-routes. Construction-related impacts would occur due to activities including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. Direct impacts to special-status plant species would be the same as described for listed plant species (Impact B-7) and may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers or the grading of access or spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Construction on steep hillsides may also result in off-site sediment transport that may bury rare plants in adjacent habitat or alter soil

conditions. Dust from road travel, grading, or other construction activities may also reduce photosynthetic capacity in plants over time or inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. As previously described for vegetation communities, soil disturbance may also result in the spread of invasive plant species. However, implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), and B-23 (Preserve offsite habitat/management of existing populations of special-status plants) would reduce impacts to less than significant (Class II).

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. Impacts to southwestern pond turtles under each Alternative 4 routing option would be slightly greater in magnitude than under the proposed Project because a greater number of sites potentially occupied by southwestern pond turtles (i.e., perennial or nearly perennial aquatic habitat), including Carbon Canyon, Soquel Canyon, Telegraph Canyon, Aliso Canyon, and Bane Canyon, would be spanned or closely approached during transmission line construction under Alternative 4 than under the proposed Project. Spanning or closely approaching a greater number of sites potentially occupied by these species would increase the likelihood of impacts resulting from injury or mortality and also increase the likelihood of permanent loss of southwestern pond turtle nesting habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Construction and removal of towers would impact no riparian habitat for Route A, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. However, implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7, and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to this species to a less-than-significant level (Class II).

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. Impacts to two-striped garter snakes and south coast garter snakes under Alternative 4 would be slightly greater in magnitude than under the proposed Project because a greater number of sites potentially occupied by these species (i.e., perennial or nearly perennial aquatic habitat), including Carbon Canyon, Soquel Canyon, Telegraph Canyon, Aliso Canyon, and Bane Canyon, would be spanned or closely

approached during transmission line construction under Alternative 4 than under the proposed Project. Spanning or closely approaching a greater number of sites potentially occupied by these species would increase the likelihood of impacts resulting from injury or mortality. Construction and removal of towers would impact no riparian habitat for Route A, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. However, implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to these species to a less-than-significant level (Class II).

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase injury or mortality of, and loss of habitat for, Coast Range newts, as suitable habitat is not present for this species within Alternative 4. Therefore, impacts are identical to the proposed Project and Implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II).

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. As described in Section 3.4.6.1, project-related construction activities could result in injury or mortality of 11 terrestrial California Species of Special Concern and FS Sensitive amphibian and reptile species (the special-status terrestrial herpetofauna). A subset of eight of those 11 total species has the potential to be affected under Alternative 4. These species include western spadefoot, San Diego horned lizard, silvery legless lizard, orange-throated whiptail, coastal rosy boa, San Bernardino ringneck snake, coast patch-nosed snake, and northern red diamond rattlesnake.

For the remaining three species (i.e., the San Gabriel Mountains slender salamander, California horned lizard, and San Bernardino mountain kingsnake), which do not occur in the re-routed portions of Alternative 4, impacts are identical to the proposed Project. Impacts to the special-status terrestrial herpetofauna under each of the Alternative 4 routing options would be slightly greater in magnitude than impacts to those species under the proposed Project as a result of construction-related activities including tower pad preparation, tower removal, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during these ground-disturbing project activities in undeveloped upland habitats and in some developed areas throughout Alternative 4. Direct impacts also include being hit by vehicles on access roads; mechanical crushing during tower site preparation, grading of spur roads, and preparation of staging and stringing/pulling locations; fugitive dust; and general disturbance due to increased human activity. Furthermore, implementation of Alternative 4 may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Indirect impacts to these species include compaction of soils and the introduction of exotic plant species. However, implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to these species, thereby reducing impacts to a less-than-significant level (Class II).

Impact B-28: The Project would disturb wintering mountain plovers.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase disturbance to wintering mountain plovers as suitable habitat is not present for this species within the Alternative 4 re-routes. Therefore, impacts to wintering mountain plovers resulting from this alternative are identical to the proposed Project and are less than significant (Class III).

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to burrowing owl as a result of increased construction activities (additional road grading and tower construction) within suitable habitats of the Chino Hills associated with Alternative 4. Direct impacts to burrowing owls as a result of construction activities for the proposed Project would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. However, implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase the loss of occupied California spotted owl habitat as suitable habitat for this species (bigcone Douglas fir-canyon oak forest and canyon oak forest) is not present in the Alternative 4 re-routes. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-31: The Project would disturb nesting California spotted owls.

As stated above, suitable habitat for California spotted owl (bigcone Douglas fir-canyon oak forest and canyon oak forest) is not present in the Alternative 4 re-routes. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in a net increase in the size and magnitude of direct and indirect impacts to nesting avian Species of Special Concern as a result of additional road grading and tower construction immediately within and adjacent to undeveloped areas and riparian habitats. Construction and removal of towers would impact approximately 25.15 acres for Route A, 44.16 acres for Route B, 59.96 acres for Route C, and 44.23 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. Increased construction activity during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take and violate the MBTA. However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II).

Impact B-33: The Project would result in the mortality of and loss of habitat for, special-status bat species.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project,

Alternative 4 (particularly Route C) would result in an incremental increase, within the Chino Hills, in the number of impacted acres of roosting habitat identified for these species as a result of additional road grading and tower construction. Direct impacts to these species, if present, include mortality of individuals during construction activities, permanent loss of habitat due to construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment). Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The construction and use of access roads could also disturb bats. Construction-related activities, which would generate noise, traffic, dust, and diesel fumes, could result in the direct loss of roosting habitat and subsequent mortality to adult bats or pups if any bats were present in the Alternative 4 area. Indirect effects could include increased traffic, dust, and human presence in the project area that could result in bats abandoning their roosts or maternal colonies. Therefore, SCE shall implement APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) to reduce impacts to a less-than-significant level (Class II).

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in an incremental increase in the frequency of transmission line strikes by special-status bat species as the distance of transmission lines that occur within natural habitats is greater along Alternative 4 than the proposed Project. Specifically, an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), or 9.8 (Route D) miles of transmission line would occur within and adjacent to Chino Hills State Park. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inches in size (Vaughan 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inches in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species (Class III).

Impact B-35: The Project would result in mortality of and loss of habitat for, special-status mammals.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in a net increase in the size and magnitude of direct and indirect impacts to special status mammals as a result of additional ground-disturbing activity, including tower pad preparation and construction and grading of new ROW and access roads in undeveloped areas. These additional impacts would only affect the Northwestern San Diego pocket mouse, Southern grasshopper mouse, and San Diego black-tailed jackrabbit as potential habitat for the other species identified in Section 3.4.6.1 does not occur in the Chino Hills, and impacts to these species would be identical to the proposed Project (see Table 3.4-22). Any potential impacts associated with the implementation of Alternative 4 would be quite small relative to the overall population size and range of these species. However, these animals would still be subject to

potential mortality from construction activities. Nonetheless, because habitat for these species is relatively abundant elsewhere, the additional habitat impacted by implementation of Alternative 4 would not substantially reduce available habitat, restrict the range, or cause regional populations to drop below self-sustaining levels. The implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species to less-than-significant levels (Class II).

Impact B-36: The Project would result in mortality of San Diego desert woodrat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to San Diego desert woodrat due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in the foothills of the Chino Hills. Direct impacts from construction activities would include the mortality of individual San Diego desert woodrats or disturbance (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment) to occupied desert woodrat nests. Construction and use of access roads would also result in impacts to this species. Indirect impacts to San Diego desert woodrats include the spread of noxious weeds that would degrade habitat quality and alteration of soils. However, implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) in the areas of suitable habitat, would reduce impacts to less than significant (Class II).

Impact B-37: The Project would result in mortality of, and loss of habitat for, the ringtail.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to ringtails due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in the Chino Hills. Direct impacts due to construction activities would include mortality of individual ringtails or disturbance of ringtail maternity dens during the pup-rearing season (1 May to 1 September). The construction and use of access roads in riparian areas could also disturb denning ringtails. Construction noise, dust, human presence, or ground disturbance could result in the abandonment of these nest sites or result in mortality of juvenile animals. Indirect impacts to ringtails could include the spread of noxious weeds that would degrade habitat quality, degradation of water quality due to siltation, and alteration of soils. However, the implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance

with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce project impacts to ringtails to a less-than-significant level (Class II).

Impact B-38: The Project would result in mortality of American badgers.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to American badgers due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads within suitable habitat in the Chino Hills. Direct impacts to American badgers include mechanical crushing of individuals or burrows by vehicles and construction equipment, noise, dust, and loss of habitat. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. However, any potential mortality would be quite small relative to the overall population size and implementation of APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

Any loss of these habitats associated with the proposed Project or alternatives is significant. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to federally-protected wetlands due to additional road grading, tower construction and removal, and culvert repair. Furthermore, the increased use of wet ford crossings along access roads within the Chino Hills could increase discharges and runoff, adversely affecting federally protected wetlands. Construction and removal of towers would impact no riparian habitat for Route A, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to wetland habitats would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. If avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce the impacts to federally protected wetlands to less-than-significant levels (Class II).

Interfere substantially with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in an incremental increase in the frequency of collisions as the distance of transmission lines that occur within natural habitats is greater along Alternative 4 than the proposed Project. Specifically, an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), or 9.8 (Route D) miles of transmission line would occur within and adjacent to Chino Hills State Park. However, implementation of APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) would ensure impacts to bird and bat migratory corridors would be less than significant (Class III).

Impact B-41: Corona noise would result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Implementation of Alternative 4 would increase the length of Segment 8 by an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), or 9.8 (Route D) miles of transmission line within and adjacent to Chino Hills State Park. In addition, the impacted area would be greater in size, and corona noise impacts would be greater in magnitude compared to the proposed Project. However, as the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Corona noise is already present along most of Alternative 4, and while Alternative 4 will result in louder corona noise for most segments and a new source of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 4 will not result in substantial impacts due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. MIS are likely to be subject to various levels of disturbance from implementation of the proposed Project on NFS lands. Because the re-routes associated with Alternative 4 would occur on non-NFS lands, impacts to MIS would be exactly the same as the proposed Project and would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), H-1a (Implement an Erosion Control Plan and

demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures are required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in similar impacts to biological resources, but it would comprise a net increase in the size and magnitude of direct and indirect impacts due to increased construction activities in undeveloped areas. However, because of the extensive planning involved in project design, including implementation of APMs BIO-1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative 4 is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the San Bernardino County General Plan and Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act, and impacts related to Criterion BIO6 are identical to the proposed Project (no impact).

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in similar impacts to biological resources, but it would result in a net increase in the size and magnitude of direct and indirect impacts due to increased construction activities in undeveloped areas. However, the Alternative 4 re-routes are located outside of the WMPHCP coverage area, and therefore Alternative 4 would result in identical impacts as the proposed Project (no impact).

3.4.8.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternatives 4a-d (Chino Hills Alternative). This alternative consists of a re-route of existing line within and near CHSP to a proposed switching station and removal of existing lines and towers within and just outside of CHSP. The remainder of this alternative route (west of MP19.2) would be identical to that of the proposed Project and would, therefore, result in identical impacts as the proposed Project. The re-routed portion of the Alternative 4a-d route would require the establishment of a new ROW, and two sets of existing transmission lines and associated towers and pads would be removed. As a result, this alternative traverses similar habitat types as the portion of the proposed Project route to the west. This portion of the proposed Project would also require the same types of construction activities to build, and would result in the same operational capacity as the proposed Project. However, given that a substantial portion occurs in areas that have not been disturbed or developed this alternative's contribution to cumulative impacts would be incrementally greater than that of the proposed Project.

Geographic Extent

Alternative 4 differs from the proposed Project for a section of the proposed route leading to the western portion of San Bernardino County near Ontario. This area is still encompassed by the geographic extent of

the cumulative analysis defined for the proposed Project in Section 3.4.6.2. Therefore, the geographic extent of the cumulative analysis for Alternative 4 is exactly the same as that for the proposed Project and would include all of the Northern, Central, and Southern Regions.

Existing Cumulative Conditions

The existing cumulative conditions for Alternative 4 are exactly the same as for the proposed Project, as described in Section 3.4.6.2.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 4 would be exactly the same as the proposed Project, described in Section 3.4.6.2.

Cumulative Impact Analysis

As described in Section 6.2.4, impacts associated with Alternative 4 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The minor re-route of the proposed Project transmission line associated with Alternative 4 would not differ significantly from the proposed Project's contribution to cumulative impacts. However, as a greater portion of the Project would be located in undeveloped areas under Alternative 4, this alternative's contribution to cumulative biological impacts would be marginally greater than the proposed Project. This difference would not be substantial, and the significance of cumulative impacts under Alternative 4 would be the same as the significance of cumulative impacts for the proposed Project.

Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 4 in Section 3.4.8.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative significant impacts to a less-than-significant level.

3.4.9 Alternative 5: Partial Underground Alternative

The following section describes impacts of Alternative 5 (Partial Underground Alternative) on Biological Resources, as determined by the significance criteria listed in Section 3.4.4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. As described in Section 2.5, this alternative would be the same as the proposed Project, with the exception that the line would be installed underground for approximately four miles through Chino Hills, between MP 21.9 and 25.4 of Segment 8A (3.5 miles). This underground portion would occur underneath the City of Chino Hills and increase the overall impact acreage of Segment 8 by approximately nine acres (seven acres of barren/developed and two acres of California annual grassland). Additionally, a large marshalling yard (estimated to be 20 to 30 acres in size) would be required for the storage of all electrical components and specialized materials associated with the GIL system. The location of the marshalling yard would be established as close to the boring site as possible; however, an exact location has not been identified. Depending on the final location for the marshalling yard, temporary impacts associated with ground disturbance could be potentially significant if the final location were to occur within habitat suitable for special-status plants or wildlife species.

The portion of Segment 8 that would be placed underground for Alternative 5 is situated in an area that is primarily located on developed land within the City of Chino Hills, although the Western Transition Station is located in California annual grassland. Land use on either side of the re-routed segment is characterized as barren/developed. Compared to the proposed Project, with the exception of an additional seven acres of barren/developed and two acres of California annual grassland and the 20 to 30 acres for the marshalling yard that will be impacted by Alternative 5, types of impacts to Biological Resources will be identical (See Section 3.4.6.1).

3.4.9.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to Biological Resources are introduced in Section 3.4.4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion.

Impacts to Riparian or Natural Communities (Criterion BIO1)

Impacts associated with Criterion BIO1 for Alternative 5 would be the same as impacts associated with this criterion for the proposed Project. Although this alternative introduces an underground placement of part of the proposed transmission line in the Southern Region, this section would cross identical habitats as the proposed Project (barren/developed, California annual grassland). Compared to the proposed Project, with the exception of an additional seven acres of barren/developed, two acres of California annual grassland, and potentially up to 30 acres of undetermined ground surface as defined by the final location for the marshalling yard that will be impacted by Alternative 5, impacts to Biological Resources will be identical (See Section 3.4.6.1). The impacts and their associated mitigation measures that fall under Criterion BIO1 are summarized in the following paragraphs. Please see Section 3.4.6.1 (Direct and Indirect Effects Analysis) for a detailed description of these impacts, as they are largely the same as the proposed Project.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

Construction of Alternative 5 would result in the same impacts to native vegetation as the proposed Project, with the exception of the additional loss of two acres of California grassland habitat, and potentially up to 30 acres of undetermined ground surface as defined by the final location for the marshalling yard. Project-related construction activities would require additional restoration/compensation for additive impacts to this vegetation community or any other vegetation communities potentially impacted due to the final location of the marshalling yard (Mitigation Measure B-1). As described in detail in Section 3.4.6.1, with the exception of agricultural or barren/developed land, construction activities that result in the disturbance to the plant communities identified above would be considered a significant impact without mitigation (Class II). Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporangin), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant and no additional mitigation measures are required for this increase in impacted vegetation.

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of undetermined ground surface as

defined by the final location for the marshalling yard within the Chino Hills. These added impacts will not affect any desert wash or riparian habitat and impacts to these resources would be exactly the same as described for the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II). No additional mitigation measures are required to minimize impacts to these riparian habitats.

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

Impacts related to noxious weeds for Alternative 5 would be the same as described for the proposed Project for the Northern and Central Regions. Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of undetermined ground surface as defined by the final location for the marshalling yard within the Chino Hills in the Southern Region. These added impacts would marginally increase the potential for establishment and spread of noxious weeds. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce impacts related to noxious weeds to less than significant (Class II). Therefore, no additional mitigation measures are required to minimize impacts due to noxious weeds.

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Alternative 5 would include the same elements as the proposed Project and would result in similar impacts to wildlife. The underground portion of this alternative would include impacts to an additional two acres of California annual grassland and potentially up to 30 acres of undetermined ground surface as defined by the final location for the marshalling yard, which could slightly increase impacts to wildlife over those described for the proposed Project. This alternative would require the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of these mitigation measures would reduce impacts to less than significant (Class II) and no additional mitigation measures are required to minimize impacts to.

Impact B-5: The Project would result in loss of nesting birds during the breeding season.

Alternative 5 contains exactly the same foraging and nesting habitat for both resident and migratory birds as the proposed Project. However, additional habitat would be disturbed from the underground construction techniques and proposed marshaling yard. Displacement of native birds or raptors during the breeding season would be considered a significant impact without mitigation. To reduce impacts to less-than-significant levels, SCE would implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction

Fugitive Dust Control Plan). As described in detail in Section 3.4.6.1, the displacement of most birds during the breeding season would be a violation of the Migratory Bird Treaty Act, but Impact B-5 would be reduced to less-than-significant levels (Class II) with mitigation. No additional mitigation measures are required to minimize impacts to nesting birds.

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Alternative 5 would result in the loss of an additional two acres of California annual grassland and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard, which would constitute a slightly greater impact to wildlife foraging habitat compared to the proposed Project. This alternative would require the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) to reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required for this relatively small increase in impacted foraging habitat.

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed plant and wildlife species. As components of this alternative, additional ground disturbance activities would include tunnel boring, GIL system installation, and the establishment of the temporary marshalling yard. Impacts to listed plant and wildlife species are detailed below. Impacts to individual species would be the same as described for the proposed Project (Section 3.4.6.1).

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Alternative 5 would be subject to the same types of ground-disturbing activity as the proposed Project, with the exception of those components identified above. Ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads has the potential to disturb the listed plant species described above in Section 3.4.6.1. Although no listed plant species were observed during surveys, there remains the potential that new populations of listed species could potentially establish in areas where they were not previously observed due to dispersal and/or a change in the existing conditions that could favor some listed species, such as a recent burn. Additionally, as the final location for the marshalling yard has not yet been identified, the location could encompass areas that were not subjected to botanical surveys. As such, the potential remains for listed plant species to occur in the undetermined location of the marshalling yard. Nonetheless, impacts to listed plants, if present, would be identical to those described for the proposed Project as a result of implementation of this alternative. The additional two acres of California annual grassland and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard impacted by Alternative 5 may increase impacts to endangered, threatened, or proposed species or their habitats, if present. Therefore, the implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a

(Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.) would reduce impacts to endangered, threatened, and proposed plant species to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to these plant species.

Impact B-8: The Project would result in the loss of California red-legged frogs and Mountain yellow-legged frogs.

Alternative 5 would be identical to the proposed Project in the areas potentially inhabited by these species, and impacts to these species would be identical to those described for the proposed Project (Section 3.4.6.1). The implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to these amphibians.

Impact B-9: The Project would result in the loss of arroyo toad.

Alternative 5 would be identical to the proposed Project in the areas potentially inhabited by arroyo toad, and impacts to this species would be identical to those described for the proposed Project (Section 3.4.6.1). SCE would be required to implement APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring). Implementation of these measures would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-10: The Project would result in the loss of desert tortoise.

Alternative 5 would be identical to the proposed Project in the areas of the Northern Region potentially inhabited by the desert tortoise, and impacts to this species would be identical to those described for the proposed Project (Section 3.4.6.1). These impacts would require implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of these measures would avoid or mitigate effects to this

species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

As with the proposed Project, Alternative 5 would not require mitigation because increases in nest sites for common raven as a result of tower construction are not expected to change. Therefore, populations of common raven and their predation pressure on the desert tortoise are not expected as a result of this alternative, and impacts would be less than significant (Class III). Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts will not take place within the range of the desert tortoise and, therefore, no additional mitigation measures are required to minimize impacts to this species.

Impact B-12: The Project would result in the loss of special-status fish.

Alternative 5 would occur in Chino Hills in a largely developed and disturbed area, and would not impact any additional waterways that could potentially be inhabited by fish. Therefore, this impact would be exactly the same as that described for the proposed Project (Section 3.4.6.1) and would require implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and Mitigation Measure B-8b (Conduct biological monitoring). These measures would reduce impacts to special-status fish to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to these species.

Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.

Alternative 5 would occur in Chino Hills in a largely developed and disturbed area, and would not impact any additional critical habitat for the Santa Ana sucker. Therefore, impacts to critical habitat for this species would be exactly the same as described for the proposed Project. Mitigation is recommended to reduce impacts to critical habitat for the Santa Ana sucker to less than significant (Class II). These measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). No additional mitigation is required.

Impact B-14: The Project would result in the loss of California condors.

Alternative 5 would be identical to the proposed Project in the areas of the Northern and Central Regions potentially inhabited by California condor, and impacts to this species would be identical to those described for the proposed Project (Section 3.4.6.1). In the Southern Region, potential for transmission

line strikes by this species would be slightly lower than the proposed Project as 3.5 miles of transmission line would be placed underground. This alternative would require implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-8b (Conduct biological monitoring), and B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion. Implementation of these measures would reduce impacts to this species to less-than-significant levels (Class II).

Electrocutions and/or line collisions as a result of the implementation of Alternative 5 are discussed further under Impacts B-20 and B-21. No additional mitigation measures are required to minimize impacts to this species.

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

The underground portion of Alternative 5 would not occur in habitat that would support southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos and therefore impacts to these species would be exactly the same as described for the proposed Project (Section 3.4.6.1). These impacts would require implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). This impact would be considered significant without mitigation (Class II). No additional mitigation measures are required to minimize impacts to these species.

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

Alternative 5 would result in the additional loss of nine acres and potentially up to an additional 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills, which is within the range of the coastal California gnatcatcher. However, these habitats (barren/developed, California annual grassland) are not suitable habitats for this species, and, therefore, impacts to this species would be exactly the same as described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). Additional mitigation measures would not be required to eliminate or minimize impacts to the coastal California gnatcatcher.

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

Alternative 5 would result in the additional loss of nine acres and potentially up to an additional 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills, which

is within the range of the coastal California gnatcatcher. However, these areas are not designated as critical habitat for the coastal California gnatcatcher, and they consist of barren/developed and California annual grassland habitats that are not suitable for this species. Therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to the coastal California gnatcatcher.

Impact B-18: The Project would disturb nesting Swainson's Hawks.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts will not disturb nesting Swainson's hawks as the area containing the underground portion of this alternative is not known to support nesting occurrences for this species. Therefore, impacts to this species would be exactly the same as those described for the proposed Project. Project implementation could result in disturbance that causes Swainson's hawks to abandon their nests or otherwise fail to reproduce, resulting in significant impacts without mitigation. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

Loss of foraging habitat for the Swainson's hawk as a result of Project implementation could substantially reduce the habitat available for the species, reduce the number, cause populations to drop below self-sustaining levels, restrict the range, or threaten to eliminate populations. Alternative 5 would result in the additional loss of 7 acres of barren/developed, 2 acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. These added impacts could reduce foraging habitat for Swainson's hawks; however, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II) and no additional mitigation measures are required to minimize impacts to this species.

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Because implementation of Alternative 5 would decrease the length of conductor lines along Segment 8 by 3.5 miles, the impacted area would be smaller in size, and Impact B-20 would be lower in magnitude than the proposed Project. However, the decrease in the frequency of transmission line electrocutions due to

this 3.5 mile reduction of aboveground transmission lines is expected to be quite low, because this area is not located near any established bird migratory corridors or dispersal routes. Therefore, the total number of electrocution events is still expected to be quite low and, as with the Alternative 2, insufficient to substantially reduce the number of State and/or federally protected bird species. SCE would implement APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006). However, because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. Impacts to State and/or federally protected birds resulting from electrocution would be less than significant with APMs incorporated (Class III) and no additional mitigation is required.

Impact B-21: The Project would result in result in collision with overhead wires by State and/or federally protected birds.

Because implementation of Alternative 5 would decrease the length of conductor lines along Segment 8 by 3.5 miles, the impacted area would be smaller in size, and Impact B-21 would be slightly lower in magnitude than the proposed Project. However, the decrease in the frequency of transmission line strikes due to this 3.5 mile reduction of aboveground transmission lines is expected to be quite low, because this area is not located near any established bird migratory corridors or dispersal routes. Therefore, the total number of collision events with overhead wires is still expected to be quite low and, as with Alternative 2, insufficient to substantially reduce the number of State and/or federally protected bird species. Line collisions as a result of Project implementation will not substantially reduce the number of State and/or federally protected birds, cause populations to drop below self-sustaining levels, restrict the range, or threaten to eliminate populations. However, with implementation of APM BIO-9 and the incorporation of raptor safety protection into the project design (i.e. tower/conductor [lines] on NFS lands) impacts to State and/or federally protected birds resulting from transmission line collisions would be less than significant (Class III). No additional mitigation for Impact B-21 is required for Alternative 5.

Impact B-22: The Project would result in disturbance to Mohave ground squirrels.

Implementation of Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts will not take place within the range of the Mohave ground squirrel, and, therefore, impacts to Mohave ground squirrels would be exactly the same as those described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-4 through BIO-7, Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to this species.

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Impact B-23: The Project would result in loss of candidate, Forest Service Sensitive, or special-status plant species.

Alternative 5 would be subject to the same types of ground-disturbing activity as the proposed Project with the exception of those components identified above. Ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads has the potential to disturb special-status plant species. Additionally, as the final location for the marshalling yard has not yet been identified, the location could encompass areas that were not subjected to botanical surveys. As such, the potential remains for special-status plant species to occur in the undetermined location of the marshalling yard. Nonetheless, impacts to special-status plants, if present, would be identical to those described for the proposed Project as a result of implementation of this alternative. The additional two acres of California annual grassland and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard impacted by Alternative 5 may increase impacts to special-status species or their habitats, if present. As discussed above, effects to these species shall be reduced by the implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), and B-23 (Preserve offsite habitat/management of existing populations of special-status plants). Mitigation measures for Impact B-23 are sufficient to reduce impacts to candidate, FS Sensitive, or special-status plants to less than significant (Class II). Therefore, no additional mitigation measures are required for these species.

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable habitat for southern pond turtles, and, therefore, impacts to this species would be exactly the same as for the proposed Project (see Section 3.4.6.1). As described for the proposed Project, if pond turtles are present, damage or destruction of southwestern pond turtle nesting areas would constitute a significant impact under CEQA without mitigation. Nesting areas are frequently used by multiple individuals, and suitable nesting habitat can be limited in many areas. Destruction of southwestern pond turtle nesting areas would result in a substantial reduction in numbers of this rare species. However, implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b

(Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would prevent mortality or injury of pond turtles, avoid damage or destruction of nesting areas, and mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable habitat for two-striped garter snakes and south coast garter snakes, and, therefore, impacts to these species would be exactly the same as described for the proposed Project. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable habitat for Coast Range newts, and, therefore, impacts to this species would be exactly the same as described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.

Alternative 5 would result in the additional loss of two acres of California annual grassland, which is suitable habitat for the northern red diamond rattlesnake, and potentially up to 30 acres of ground surface

as defined by the final location for the marshalling yard in the Chino Hills. However, this additional impacted acreage is low, and impacts to unique amphibian and reptile species would be slightly greater in magnitude than those described for the proposed Project. Mitigation measures for Impact B-27 are sufficient to minimize impacts to candidate, FS Sensitive, or special-status amphibian and reptile species. Implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures are required for these species.

Impact B-28: The Project would disturb wintering mountain plovers.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable habitat for wintering mountain plovers, and, therefore, impacts to this species would be exactly the same as described for the proposed Project. Alternative 5 would not require mitigation for this impact because the total acreage of impacted habitat is small relative to regional availability, and implementation of Alternative 5 would not restrict the range of the species. Therefore, impacts to wintering mountain plovers resulting from construction disturbance are less than significant (Class III).

Impact B-29: The Project would result in loss of occupied burrowing owl habitat.

Alternative 5 would result in the additional loss of two acres of California annual grassland, which is suitable habitat for the burrowing owl, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. Therefore, the loss of occupied burrowing owl habitat would potentially be slightly greater in magnitude than that described for the proposed Project. Implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). These mitigation measures are sufficient to minimize impacts to burrowing owl; therefore, no additional mitigation measures are required for this species.

Impact B-30: The Project would result in loss of occupied California spotted owl habitat.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable habitat for California spotted owl, and, therefore, impacts to this species would be exactly the same as described for the proposed Project (Section 3.4.6.1). SCE would implement APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore,

impacts to the California spotted owl resulting from loss of occupied habitat are considered less than significant (Class II) with mitigation. No additional mitigation measures are required to minimize impacts to this species.

Impact B-31: The Project would disturb nesting California spotted owls.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable nesting habitat for California spotted owl, and, therefore, impacts to spotted owl habitat would be exactly the same as described for the proposed Project (Section 3.4.6.1). SCE would implement APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) that would reduce impacts to less-than-significant levels (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Alternative 5 would result in the additional loss of two acres of California annual grassland, which is suitable nesting habitat for several nesting avian “species of special concern,” including grasshopper sparrow and northern harrier. Additionally, up to 30 acres of ground surface within the Chino Hills, as defined by the final location for the marshalling yard, could be temporarily disturbed through implementation of this alternative. Therefore, overall impacts to avian “species of special concern” would be slightly greater than those described for the proposed Project (Section 3.4.6.1). Construction-related disturbance that causes nest abandonment and/or loss of reproductive effort would constitute a significant impact and violate the MBTA. However, implementation of APMs BIO-4 through BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II). These mitigation measures are sufficient to minimize impacts to these species. Therefore, no additional mitigation measures are required for avian “species of special concern.”

Impact B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts would not take place within suitable roosting habitat for special-status bat species, and, therefore, impacts to these species are identical to those described for the proposed Project (Section 3.4.6.1). If active hibernacula and maternity roosts cannot be avoided, impacts would be significant. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys

for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to these species.

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

Because implementation of Alternative 5 would decrease the length of conductor lines along Segment 8 by 3.5 miles, the impacted area would be smaller in size, and Impact B-34 would be slightly lower in magnitude than for the proposed Project. However, the decrease in the frequency of transmission line strikes due to this 3.5-mile reduction of aboveground transmission lines is expected to be quite low, because this area is not located near any established bat migratory corridors or dispersal routes. Therefore, the number of collision events with overhead wires is still expected to be quite low and, as with the proposed Project, insufficient to substantially reduce the number of special-status bat species. SCE would implement APMs BIO-1, BIO-4, and BIO-6 to minimize adverse affects to special-status bats. Line strikes as a result of Project implementation will not substantially reduce the number of special-status bat species, cause their populations to drop below self-sustaining levels, restrict their range, or threaten to eliminate their populations. Therefore, impacts to special-status bat species resulting from transmission line strikes are less than significant (Class III).

Impact B-35: The Project would result in mortality of, and loss of habitat for, special-status mammals.

Alternative 5 will result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat (which is suitable habitat for a variety of special-status mammals), and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. As described for the proposed Project (Section 3.4.6.1), the area of suitable habitat for the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit potentially impacted by Alternative 5 would be quite small relative to the overall population size and range of these species. Implementation of Alternative 5 would not substantially reduce available habitat; however, these animals would still be subject to potential mortality from construction activities. Therefore, impacts to these species as a result of Project implementation would be slightly greater than those described for the proposed Project. SCE indicates that APM BIO-1 and APM BIO-5 would be implemented, which would include preconstruction clearance surveys and the use of biological monitors during construction of the proposed Project. In addition, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to less than significant (Class II).

Impact B-36: The Project would result in mortality of San Diego desert woodrats.

Construction activities associated with Alternative 5 could substantially reduce regional populations of this species in the Chino and Puente Hills. Alternative 5 would result in the additional loss of two acres of California annual grassland and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. As the final location of marshaling yard is not known, impacts to this species may be greater than the proposed Project (Section 3.4.6.1). Impacts to this

species as a result of Alternative 5 implementation would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Additional No additional mitigation measures are required.

Impact B-37: The Project would result in mortality of and loss of habitat for, the ringtail.

Alternative 5 would result in the additional loss of seven acres of barren/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts will not take place within suitable habitat for ringtails, and, therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). The implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce project impacts to ringtails to a less-than-significant level (Class II). No additional mitigation measures are required to minimize impacts to this species.

Impact B-38: The Project would result in mortality of American badgers.

Alternative 5 would result in the additional loss of two acres of California annual grassland, which is suitable habitat for the American badger, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard. This would constitute a marginal increase in potential impacts and overall impacts to American badgers would be slightly greater than those described for the proposed Project (Section 3.4.6.1). Construction activities could significantly reduce the number of American badger in the Antelope Valley and Chino and Puente Hills. However, impacts to the American badger would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1, BIO-4, BIO-5, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Mitigation measures for Impact B-38 are sufficient to minimize impacts to this species. Therefore, no additional mitigation measures are required for the American badger.

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

Alternative 5 will result in the additional loss of seven acres of disturbed/developed, two acres of California annual grassland habitat, and potentially up to 30 acres of ground surface as defined by the final location for the marshalling yard within the Chino Hills. However, these added impacts will not affect any federally protected wetlands, and impacts would be exactly the same as described for the proposed Project (Section 6.1). Any loss of these habitats associated with Alternative 5 is significant. If

avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) will reduce the impacts to federally protected wetlands to less-than-significant levels (Class II). Therefore, no additional mitigation measures are required to minimize impacts to these protected habitats.

**Interfere substantially with native fish or wildlife movements, corridors, or nursery sites
(Criterion BIO5)**

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

Implementation of Alternative 5 would decrease the length of conductor lines along Segment 8 by 3.5 miles, resulting in a smaller impacted area that would interfere with established bird and bat migratory corridors. However, the reduction of aboveground transmission lines along Segment 8 is expected to have little effect on Impact B-40, because this area is not located near any of the established bird and bat migratory corridors. Therefore, the number of collision and other interference events with overhead wires is still expected to be very similar to the proposed Project and would require implementation of APMs BIO-1, BIO-4, and BIO-6 to minimize interference with established bird and bat migratory corridors. Line strikes as a result of implementation of Alternative 5 would not substantially reduce the numbers of migrating bird or bat species, cause their populations to drop below self-sustaining levels, restrict their range, or threaten to eliminate their populations. Thus, implementation of Alternative 5 would not substantially interfere with established bird or bat migratory corridors, and impacts to migrating bird and bat species would be less than significant (Class III). No additional mitigation for Impact B-40 is required for Alternative 5.

Impact B-41: Corona noise would result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Alternative 5 follows the exact same route as the proposed Project but includes an underground portion approximately 3.5 miles in length along Segment 8. Implementation of Alternative 5 would decrease the length of above-ground conductor lines along Segment 8 by 3.5 miles, resulting in a smaller area that would produce corona noise as compared to the proposed Project. In all other areas, impacts would be identical to the proposed Project. However, as the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise for the above-ground portions of Alternative 5 or the decrease for the underground portion will impact local wildlife. Corona noise is already present along most of Alternative 5, and while Alternative 5 will result in louder corona noise for most segments and a new source of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 5 will not result in substantial impacts due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. MIS are likely to be subject to various levels of disturbance from implementation of the proposed Project on NFS lands. Because the underground portion associated with Alternative 5 would occur on non-NFS lands, impacts to MIS would be exactly the same as the proposed Project and would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures are required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

Because of the extensive planning involved in project design, including implementation of APMs BIO 1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative 5 is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act. Therefore, no impact would occur.

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Therefore, no impact would occur.

3.4.9.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternative 5 (Partial Underground Alternative). This alternative consists of a 3.5 mile underground re-route of the proposed transmission line. The remainder of this alternative route (north of Segment 8A) would be identical to that of the proposed Project and would, therefore, result in identical impacts as the proposed Project. The re-routed underground portion of the Alternative 5 route follows the same path as the proposed aboveground Project route. As a result, this alternative traverses the same or similar habitat types as the portion of the proposed Project route it is proposed to replace, and additional impacts are limited primarily to barren/developed habitats. Based on the substantial similarity of Alternative 5 to the proposed Project, this alternative's contribution to cumulative impacts would be virtually identical to that of the proposed Project.

Geographic Extent

Alternative 5 only differs from the proposed Project for a short 3.5-mile portion of the proposed route in the City of Chino Hills. This area is still encompassed by the geographic extent of the cumulative analysis defined for Alternative 2 in Section 3.4.6.2. Therefore, the geographic extent of the cumulative analysis for Alternative 5 is exactly the same as that for Alternative 2 and would include all of the Northern, Central, and Southern Regions.

Existing Cumulative Conditions

The existing cumulative conditions for Alternative 5 are exactly the same as for Alternative 2, as described in Section 3.4.6.2.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 5 would be exactly the same as Alternative 2, described in Section 3.4.6.2.

Cumulative Impact Analysis

As described in Section 3.4.6.2, impacts associated with Alternative 5 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The underground re-route of the proposed Project transmission line associated with Alternative 5 would not differ from the proposed Project's contribution to cumulative impacts and therefore, cumulative impacts of Alternative 5 would be exactly the same as cumulative impacts for Alternative 2.

Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 5 in Section 3.4.9.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level.

3.4.10 Alternative 6: Maximum Helicopter Construction in the ANF Alternative

This section describes impacts of Alternative 6 (Maximum Helicopter Construction in the ANF) on biological resources, as determined by the significance criteria listed in Section 3.4.4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. Alternative 6 was requested by the FS to reduce ground disturbance associated with new road construction and improvements to existing access roads on the ANF. As described in Section 2.6, this alternative would utilize helicopter construction within the ANF to the maximum extent feasible along Segments 6 and 11.

3.4.10.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to biological resources are introduced in Section 3.4.4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion.

Impacts to Riparian or Natural Communities (Criterion BIO1)

Construction activities associated with Alternative 6 described above and in Section 2.6 would result in a net decrease in size and magnitude of construction impacts to biological resources identified under the proposed Project. The impacts and their associated mitigation measures that fall under Criterion BIO1 are summarized in the following paragraphs.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

Alternative 6 is identical to the proposed Project in the Northern and Southern Regions. In the Central Region, on NFS lands, this alternative differs from the proposed Project by a net decrease of one helicopter staging area and an approximate 42.5-mile reduction in the amount of access/spur roads that would be improved or created under the proposed Project. Alternative 6 follows the same route as the proposed Project through the ANF, impacting similar habitats, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of the reduction in permanent impacts associated with this alternative. One additional habitat type, Yellow Pine Forest, would be impacted by implementation of this alternative. Construction may also result in the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation (See Impact B-3 below).

Overall, as described in Section 2.6.2.2 (Land Disturbance), the type and general location of land disturbance associated with Alternative 6 is expected to be comparable to SCE's proposed Project, although there would be a noticeable reduction in permanent land disturbance as a result of the 42.5-mile reduction in new spur roads/upgrades to existing roads and land disturbance associated with ground-based construction. For SCE's proposed Project (Alternative 2), construction within Segment 6 on the ANF would result in approximately 2.5 acres of temporary disturbance ($\pm 15\%$ range of 2.1-2.9 acres) and approximately 53.5 acres of permanent disturbance ($\pm 15\%$ range of 45.5-61.6 acres) associated with new and/or upgraded roads (see Table 2.2-7 at the end of Section 2). Segment 11 within the ANF would result in no acres of temporary and approximately 40.9 acres of permanent disturbance ($\pm 15\%$ range of 34.7-47.0 acres) associated with new and/or upgraded roads (see Table 2.2-6 at the end of Section 2).

Alternative 6 would reduce the amount of new and/or upgraded roads by approximately 42.5 miles within the ANF, which would otherwise be required under SCE's proposed Project. Under Alternative 6, construction within Segment 6 would result in approximately 0.5 acres of temporary disturbance ($\pm 15\%$ range of 0.4-0.6 acres) and approximately 26.2 acres of permanent disturbance ($\pm 15\%$ range of 22.2-30.1 acres) associated with new and/or upgraded roads (see Table 2.6-4 at the end of Section 2); Segment 11 within the ANF (NFS lands) would result in no acres of temporary and approximately 21.7 acres of permanent disturbance ($\pm 15\%$ range of 18.5-25.0 acres) (see Table 2.6-3 at the end of Section 2). Overall, within Segment 6 permanent land disturbance is expected to be reduced by approximately 27.3 acres (53.5 acres vs. 26.2); and in Segment 11 is expected to be reduced by approximately 19.2 acres (40.9 acres vs. 21.7 acres).

Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II). No further mitigation is required.

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

As Alternative 6 is identical to the proposed Project in the Northern Region, the amount of desert wash impacted by the alternative in this region is identical to the proposed Project. Similarly, the amount of riparian habitat impacted by this alternative in the Southern Region is also identical to the proposed Project.

Approximately 96 Riparian Conservation Areas (RCAs) occur where the transmission line crosses a stream or drainage. One hundred and seventy-one occur where access or spur roads cross ephemeral, intermittent, or perennial drainages under the proposed Project. While riparian areas are considered on both NFS lands and non-NFS lands, RCAs are defined only for the ANF as required by the ANF LRMP. Of the 267 RCAs that occur on NFS lands, 95 would be subject to impacts under the proposed Project that would be considered other than neutral or beneficial. These impacts would occur from road grading, tree removal, culvert installation, stream diversion or similar impacts. Other than neutral or beneficial effects to these resources is not consistent with FS guidelines and would require the completion of a Forest Plan Amendment.

The single largest impact to RCAs from the proposed Project and alternatives would occur from the widening of the access roads to 16 feet and the construction of new spur roads. Widening of the access roads in some cases would remove riparian vegetation, including mature oak trees, alders, and other riparian trees that occur in RCAs. Under Alternative 6, the number of RCAs that would occur where access or spur roads cross drainages would be reduced to 86, with 57 being subject to potentially adverse impacts. This would result in a difference of 38 fewer RCAs impacted under Alternative 6 as compared to the proposed Project.

Alternative 6 follows the same route as the proposed Project through the ANF, impacting similar habitats, but comprising a slight decrease in the size and magnitude of direct and indirect impacts to desert wash and riparian habitat (0.57 acre) as a result of the increased helicopter construction and related decrease in the amount of access road improvements. However, impacts to riparian habitat on the ANF, including RCAs would still occur as a result of necessary access road improvements. Impacts to desert wash and riparian habitat are described in Section 3.4.6, Alternative 2: SCE's Proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II). No further mitigation is required.

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

Alternative 6 follows the same route as the proposed Project through the ANF, impacting similar habitats, but with a net decrease of one helicopter staging area. There would also be an approximate 42.5-mile decrease in the amount of access roads used, improved, and constructed under this alternative. This decrease in the construction/use of access/spur roads infers that 42.5 miles of road will not be further impacted by the spread of invasive plants due to construction activity. Spanish broom, a noxious weed, was identified at Site 10. The potential introduction or spread of noxious and invasive weeds would occur primarily during construction activities, but would also continue to occur during operation and maintenance phases. Similar to the proposed Project, the introduction of noxious and invasive weeds would be related to ground disturbance from clearing and grading; road maintenance; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or

wattles that contain seeds of non-native plant species; and enhanced public access to the project corridor during and after construction. Additionally, equipment or clothing is often contaminated with weed seeds and seeds can be spread by construction or maintenance personnel. Implementation of Alternative 6 would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to spread into previously isolated areas. However, implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting identical wildlife species, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of the reduction in the amount of access roads created or improved, especially in undisturbed portions of the ANF. With the increase in helicopter construction, access road use and improvement would decrease over the proposed Project, but disturbance related to helicopter use, including construction of helicopter staging sites, noise, dust, and vibration, would increase. For example, under the proposed Project approximately 6,633 – 9,339 heavy helicopter trips would occur during construction while approximately 27,423 – 38,335 trips would occur under Alternative 6. As described in Section 3.4.6.1, direct impacts to wildlife associated with construction of Alternative 6 would include mortality from trampling or crushing; increased noise levels due to heavy equipment and helicopter use; increased vehicular and human presence along existing access roads and riparian areas; displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions; fugitive dust; and increased erosion and sediment transport. Indirect effects to wildlife as a result of Alternative 6 include the introduction of non-native, invasive plant species, alterations to existing hydrological conditions, and exposure to contaminants. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II). No further mitigation is required.

Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting identical avian species, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in access road improvement and creation. However, noise from increased helicopter operation could adversely impact nesting birds to a greater degree than the proposed Project. For example, under the proposed Project approximately 6,633 – 9,339 heavy helicopter trips would occur during construction while approximately 27,423 – 38,335 trips would occur under Alternative 6. The increased use of helicopters for implementation of Alternative 6 would also increase noise, vibration, dust, and air turbulence, and would cause visual disturbance to nesting birds above the

levels anticipated for the proposed Project. These factors could result in the disruption of breeding activity, and subsequent nest failure. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Alternative 6 follows the same route as the proposed Project through the ANF, impacting similar habitat for wildlife species with the addition of Yellow Pine Forest, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in access road improvement and creation. Direct impacts as a result of construction activities associated with Alternative 6 would include the permanent removal and temporary disturbance of common and rare vegetation communities utilized as foraging habitat for wildlife, fugitive dust, and increased noise levels due to heavy equipment and helicopter operations occurring in these areas. These impacts would primarily occur during tower pad preparation; grading for helicopter staging areas; and construction, grading, and widening of new spur roads or existing access roads that would still be needed under this alternative. Indirect impacts to foraging habitat could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weeds. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting similar habitat types, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of the reduction in new and improved access and spur roads. Overall, within Segment 6 permanent land disturbance is expected to be reduced by approximately 27.3 acres (53.5 acres vs. 26.2); and in Segment 11 is expected to be reduced by approximately 19.2 acres (40.9 acres vs. 21.7 acres). Mt. Gleason Indian Paintbrush, a State Rare and FS Sensitive species, was identified adjacent to helicopter Site 9. In addition, suitable habitat for this species occurs in Site 4, although the species was not detected during surveys. As described in Section 3.4.6.1, direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower pad preparation, clearing helicopter staging areas, and the construction, grading, and widening of new spur roads and existing access roads that would still be required under this alternative. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. However, the implementation of Mitigation Measures AQ-1 (Implement

Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.) would reduce impacts to endangered, threatened, and proposed plant species to less-than-significant levels (Class II). No further mitigation is required.

Impact B-8: The Project would result in the loss of California red-legged frogs and Mountain yellow-legged frogs.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting fewer habitats suitable for the California red-legged frog and mountain yellow-legged frog than the proposed Project. In addition, this alternative would comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access roads created or improved. However, access roads to stringing and pulling sites would still be improved or constructed under this alternative. As discussed above in Section 3.4.6.1, the use of wet ford crossings along access roads could increase turbidity and sedimentation at, and downstream of, the crossing. California red-legged frogs may use minor tributaries that would be crossed by construction vehicles, especially as refugia when major waterways are experiencing high rates of flow and when water is present in the tributaries. As described for the proposed Project, direct impacts to the California red-legged frog and mountain yellow-legged frog, if present, could occur from construction activities as a result of mechanical crushing, loss of breeding or basking sites, fugitive dust, and human trampling. Disturbance would be associated with the removal of vegetation and alterations of existing topographical and hydrological conditions, particularly along drainage crossings and within RCAs. Indirect impacts to these species could include the degradation of water quality, changes in water runoff due to spur road and access road construction or upgrades, increased erosion and sediment transport, and the spread of noxious weeds along riparian areas. However, the implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species a less-than-significant level (Class II). No further mitigation is required.

Impact B-9: The Project would result in the loss of arroyo toads.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting less habitat suitable for arroyo toad than the proposed Project. In addition, this alternative would comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the improvement and construction of access roads. However, noise and disturbance associated with helicopter use can disturb arroyo toads and interfere with breeding. As described for the proposed Project, direct impacts to arroyo toads could occur as a result of crushing from mechanized equipment, temporary

disruption of foraging or thermoregulation sites in adjacent upland areas, fugitive dust, or the disruption of egg masses from impacts to water quality. Indirect effects to this species may be caused by the diversion or modification of water flows, increased downstream sediment transport, or the establishment of noxious weeds. However, implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring) would avoid or mitigate take, including loss of habitat, thereby reducing potential impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-10: The Project would result in the loss of desert tortoises.

Alternative 6 is identical to the proposed Project in the Northern Region, where the desert tortoise has the potential to occur. Any added impacts associated with Alternative 6 would not affect suitable habitat for desert tortoises, as suitable habitat is absent for this species within the additional areas affected by this alternative. Therefore, impacts to desert tortoises would be identical to those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

Increases in nest sites for common raven as a result of tower construction would not change from the proposed Project under this alternative, as Alternative 6 is identical to the proposed Project in the Northern Region. Populations of common raven and their predation pressure on the desert tortoise are not expected to result from additional towers, and impacts are expected to be less than significant. Alternative 6 differs from the proposed Project only on the ANF where suitable habitat for the desert tortoise is absent. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and would be less than significant (Class III). No further mitigation is required.

Impact B-12: The Project would result in the loss of special-status fish.

Alternative 6 would occur in the exact same alignment as Alternative 2. The primary difference in this alternative is the reduction of road use on the ANF from road grading and the development of spur roads. In addition, use of the West Fork Cogswell road, which is located adjacent to the West Fork of the San Gabriel River, would not occur. The West Fork of the San Gabriel River in this area supports Santa Ana sucker, arroyo chub, and Santa Ana speckled dace, as well as critical habitat for the Santa Ana sucker. Alternative 6 would result in a reduction in the amount of heavy road traffic and grading required on many of the Forest System roads. This includes major road grading and upgrades within RCAs and perennial water bodies such as Big Tujunga Creek and portions of the West Fork of the San Gabriel River. Under Alternative 6 the number of stream crossings is reduced from 171 to 86. As described for

Alternative 2, road grading will occur in RCAs associated with the San Gabriel River above Cogswell reservoir. Overall this will result in a net decrease in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas. This alternative would also result in a net decrease of one helicopter staging area when compared to the proposed Project. The elimination of the West Fork Cogswell road will result in a net decrease in the size and magnitude of direct and indirect impacts to special-status fish species.

Project-generated runoff could result in mortality or sublethal effects to all life stages of special-status fishes, though with the implementation of mitigation measures this is not expected to occur. Under Alternative 6 there would be a decrease in potential impacts to Santa Ana Sucker since the West Fork Cogswell Road would not be used. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce these impacts to less than significant levels (Class II). No further mitigation is required.

Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.

Alternative 6 would occur in the exact same habitat and alignment as Alternative 2. The primary difference in this alternative is the reduction of road use on the ANF from road grading and the development of spur roads. In addition, use of the West Fork Cogswell road, which is located adjacent to critical habitat for the Santa Ana sucker, would not occur. Therefore, Alternative 6 would avoid potential direct effects to critical habitat for this species. Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms and impacts to Santa Ana sucker critical habitat would be less than significant (Class III).

Impact B-14: The Project would result in the loss of California condor.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, resulting in identical types of impacts to the California condor, but comprising a net increase in the size and magnitude of direct and indirect impacts as a result of additional helicopter operation and potential for leaking equipment. There would be a decrease in the amount of access roads improved and/or constructed under this alternative, and construction of one less helicopter staging area would occur. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would reduce impacts to this species, including the loss of habitat and the potential for micro-trash ingestion, to less-than-significant levels (Class II). No further mitigation is required.

Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area. This alternative would result in decreased impacts to listed riparian birds as compared to the proposed Project as a result of the 42.5-mile reduction in the amount of access and spur road construction. The dense riparian habitat present on the West Fork Cogswell road would not be disturbed under this alternative. Alternative 6 would comprise a net increase in the size and magnitude of direct and indirect impacts associated with additional helicopter operation immediately adjacent to riparian habitats, although these impacts would be considered short-term and temporary. Construction disturbance related to the remaining access roads, tower pad construction, staging areas, stringing and pulling areas, concrete batch plant locations, and helicopter staging areas located near riparian areas during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, which would constitute take. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to these species to less-than-significant levels (Class II). No further mitigation is required.

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area. This alternative would result in a net decrease in the size and magnitude of direct and indirect impacts as a result of a reduction in the improvement and construction of access roads along the steep slopes at the southern end of the ANF. The removal of habitat in these areas during the breeding season could result in the displacement of breeding birds and the abandonment of active nests, if present. Noise from helicopter operation, which would occur in many sections of the ANF, could also adversely affect nesting birds, including gnatcatchers. Impacts to this species in the Southern Region would be identical to those described for the proposed Project. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take. However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No further mitigation is required.

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging site; however, critical and/or known occupied habitat does not exist within the ANF portion of Alternative 6. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-8 and Mitigation

Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No further mitigation is required.

Impact B-18: The Project would disturb nesting Swainson's Hawks.

Alternative 6 is identical to the proposed Project in the Northern Region, where the Swainson's hawk occurs. Any added impacts associated with Alternative 6 would not affect nesting Swainson's hawks, as suitable habitat is absent for this species within the additional areas affected by this alternative. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No further mitigation is required.

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

Suitable habitat for the Swainson's hawk does not occur in the Central Region where Alternative 6 deviates from the proposed Project. In the Northern Region, where suitable habitat for this species occurs, this alternative is identical to the proposed Project. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No further mitigation is required.

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Alternative 6 differs from the proposed Project in the amount of construction that would be completed via helicopter on NFS lands. However, the towers and lines would be identical to the proposed Project and risk of electrocution of State and/or federally protected birds would be the same as described in Section 3.4.6.1. Therefore, implementation of APMs BIO-4 and BIO-9 would ensure impacts would be less than significant (Class III). No further mitigation is required.

Impact B-21: The Project would result in result in collision with overhead wires by State and/or federally protected birds.

As the characteristics of the towers and lines that would be constructed under Alternative 6 are identical to the proposed Project, the risk of collision with overhead wires by State and/or federally protected birds would be the same as described for the proposed Project (Section 3.4.6.1). Therefore, implementation of APM BIO-9 would ensure impacts would be less than significant (Class III). No further mitigation is required.

Impact B-22: The Project would result in disturbance to Mohave ground squirrels.

Alternative 6 differs from the proposed Project in the amount of construction that would be completed via helicopter on NFS lands. This alternative is identical to the proposed Project in the Northern Region, where the Mohave ground squirrel has the potential to occur. Any added impacts associated with Alternative 6 would not reduce suitable habitat for the Mohave ground squirrel, as suitable habitat is not present for this species within the ANF portion of Alternative 6. Therefore, impacts to this species are identical to those described for the proposed Project (Section 3.4.6.1) and implementation of APMs BIO-4 through BIO-7 and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II). No further mitigation is required.

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Impact B-23: The Project would result in loss of candidate, Forest Service Sensitive, or special-status plant species.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area, impacting similar habitat, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of a decrease in grading for new access and/or spur roads and improvements to existing access roads. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. Surveys conducted in July, 2008 detected short-joint beaver tail cactus, a CNPS List 1B.2 and FS Sensitive species, at helicopter Sites 1 and 3. San Gabriel manzanita, also a CNPS List 1B.2 and FS Sensitive species, was detected in Sites 5 and 6 and adjacent to Site 9. Suitable habitat for San Gabriel manzanita is also present at Site 4. Suitable habitat for Lemmon's syntrichopappus, a CNPS List 4.3 and FS Watch List species, is present in Sites 5 and 6. Plummer's mariposa lily (CNPS List 1B.2, FS Sensitive), is present adjacent to Site 6. An unidentified *Calochortus* sp., which could be a special-status species, was identified in Site 7 (proposed Project helicopter site 6B). As described for the proposed Project, direct impacts to special-status plant species would be the same as described for listed plant species (Impact B-7) and may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers or the grading of access or spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Additional indirect impacts include dust and sediment transport. As previously described for vegetation communities, soil disturbance may also result in the spread of invasive plant species. However, avoidance and implementation of Mitigation Measures AQ-1 (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and

federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), and B-23 (Preserve offsite habitat/management of existing populations of special-status plants) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction/improvement of spur and access roads. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, Alternative 6 would result in identical types of impacts to southwestern pond turtles, but comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of the approximate 42.5-mile reduction in the improvement and construction of access roads and a decrease in impacts to riparian areas. However, as discussed above in Section 3.4.6.1, the use of wet ford crossings along access roads could increase turbidity and sedimentation at and downstream of the crossing. Direct effects to southwestern pond turtle may occur from construction activity as a result of mechanical crushing; loss of nesting, breeding or basking sites; and human trampling. Disturbance would be associated with the removal of vegetation, construction and widening of access and spur roads, excavation of footings, and tower construction adjacent to areas that support this species. Indirect impacts to southwestern pond turtle would include alteration of habitat that would preclude pond turtle use, degradation of water quality over time due to siltation and sedimentation, and the spread of noxious weeds. Implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would avoid damage or destruction of nesting areas and mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, identical types of impacts to two-striped garter snakes and south coast garter snakes would occur, but this alternative would comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access and spur roads to be constructed or improved. As discussed above in Section 3.4.6.1, direct impacts due to construction

activities include mortality or injury of individual two-striped garter snakes and south coast garter snakes as a result of mechanical crushing; loss of nesting, breeding or basking sites; fugitive dust; and human trampling. Indirect effects to these species include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of vegetation; and grading of tower pads, staging areas, helicopter pads, and pulling sites. Other indirect effects include compaction of soils and introduction of exotic plant species. Furthermore, Project implementation may result in loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. However, implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, Alternative 6 would result in identical types of impacts to Coast Range newts, but comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access and spur roads to be constructed or improved. As described above in Section 3.4.6.1, direct impacts to Coast Range newt include mechanical crushing or road kill during construction, human trampling, loss of breeding sites due to water quality degradation, fugitive dust, and loss of foraging habitat. Indirect impacts include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of vegetation; and grading tower pads, staging areas, helicopter pads, and pulling sites. Other indirect effects include compaction of soils and introduction of exotic plant species. However, implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species (special-status terrestrial herpetofauna).

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, Alternative 6 would result in identical types of impacts to special-status terrestrial herpetofauna as the proposed Project. However, this alternative comprises a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access and spur roads to be constructed or improved. The San Diego horned lizard, a California Species of Special Concern and FS Sensitive species, was identified in helicopter Site 6. As described in Section 3.4.6.1, direct impacts include being hit by vehicles on access roads; mechanical crushing during tower site preparation, grading of spur roads, and preparation of staging and stringing/pulling locations; fugitive dust; and general disturbance due to increased human activity. Furthermore, implementation of this alternative may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during ground-disturbing activities in undeveloped upland habitats and in some developed areas throughout Alternative 6. Indirect impacts to these species include compaction of soils and the introduction of exotic plant species. However, implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-28: The Project would disturb wintering mountain plovers.

Alternative 6 is identical to the proposed Project in the Northern Region where mountain plovers have the potential to occur, and differs from the proposed Project only on the ANF where suitable habitat for this species does not occur. As with the proposed Project, the total acreage of wintering mountain plover habitat impacted by Alternative 6 is small relative to regional availability, and implementation of Alternative 6 would not restrict the range of the species. Therefore, impacts to wintering mountain plovers resulting from this alternative are identical to the proposed Project, and are less than significant (Class III).

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the amount of spur and access roads constructed/upgraded. This alternative would impact similar habitats, but comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including a reduction in the amount of access and spur roads to be constructed or improved immediately adjacent to the northern boundary of the ANF where burrowing owls have the potential to occur. As described in Section 3.4.6.1, direct impacts to burrowing owls as a result of construction activities for

Alternative 6 would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. However, implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

Alternative 6 follows the same route as the proposed Project through the ANF, impacting identical habitats suitable for California spotted owl (bigcone Douglas fir-canyon oak forest and canyon oak forest), but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of the 42.5-mile decrease in access and spur road construction. Suitable habitat for spotted owl is located at several locations, including between the helipad and the tower alignment at Sites 4 and 7. In addition, a California spotted owl was detected by AMEC during 2008 surveys within the PAC that encompasses Site 4. Increased helicopter construction would introduce a substantial increase in the amount of noise, vibration, dust, visual disturbance, and air turbulence in California spotted owl habitat. These factors could disrupt breeding activity and ultimately lead to avoidance of breeding altogether, or the failure of an already established nest. Since a limited operating period will be utilized to protect breeding and nesting, the impacts will be reduced. In addition, there would be a decrease in the disturbance to spotted owl habitat related to road improvement and construction in areas that would be constructed by helicopter. Nonetheless, increased noise and human disturbance impacts to spotted owls as a result of Alternative 6 may result in displacement from territories, interference with breeding, and abandonment of nests. However, implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-31: The Project would disturb nesting California spotted owls.

As stated above, Alternative 6 would result in a net decrease in direct and indirect impacts to habitats suitable for California spotted owl (bigcone Douglas fir-canyon oak forest and canyon oak forest) due to the 42.5-mile reduction in the construction/improvement of access and spur roads. Increased helicopter construction activity during the breeding season would likely result in the displacement of breeding California spotted owls and the abandonment of active nests. A limited operating period will be in place to protect breeding and nesting spotted owls, thus the impact would be reduced. In addition, some of the spotted owl habitat on the ANF would not be included in the maximum helicopter construction portion of this alternative, and spotted owls would be subject to construction disturbance from the widening and creation of new access roads as well as stringing and pulling sites, concrete batch plant sites, tower construction and demolition, etc. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take and violate the MBTA. However, implementation of APMs BIO-2 and BIO-4 through BIO-6,

Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction/improvement of access and spur roads. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. This alternative would result in identical types of impacts to avian “species of special concern” as described for the proposed Project (Section 3.4.6.1), but would comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. A yellow-breasted chat (California Species of Special Concern) was detected in Site 6 during July 2008 surveys. Increased construction activity during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Noise from increased helicopter operation, which would occur in many sections of the ANF as a result of Alternative 6, would also adversely affect nesting birds. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take and violate the MBTA. However, implementation of APMs BIO-4 through BIO-6, and Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile decrease in the amount of access and spur roads constructed and improved. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, Alternative 6 would result in identical types of impacts to special-status bat species as described for the proposed Project (Section 3.4.6.1). However, this alternative would comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. Townsend’s big-eared bat and pallid bat (both California Species of Special Concern and FS Sensitive species), were detected during the July 2008 reconnaissance surveys. Townsend’s big-eared bat was detected in helicopter Site 7, and pallid bat was identified adjacent to Site 3 under a bridge, although suitable habitat for this species does not occur within Site 3. Increased construction activity in the vicinity of active hibernacula and maternity roosts would likely result in the displacement of bats and the abandonment of these sites. Furthermore, noise from increased helicopter operation, which would occur in many sections of the ANF as a result of Alternative 6, would also adversely affect special-status bats. As described in Section 3.4.6.1, direct impacts to these species include mortality of individuals during construction activities, permanent loss of habitat due to

construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment). Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. Construction-related activities, which would generate noise, traffic, dust, and diesel fumes, could result in the direct loss of roosting habitat and subsequent mortality to adult bats or pups if any bats were present in the proposed Project area. Indirect effects could include increased traffic, dust, and human presence in the Project area that could result in bats abandoning their roosts or maternal colonies. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1 (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II). No further mitigation is required.

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

As the characteristics of the towers and lines that would be constructed under Alternative 6 are identical to the proposed Project, the risk of collision with overhead wires by special-status bat species would be the same as described for the proposed Project (Section 3.4.6.1). Because most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inches in size (Vaughan, 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inches in diameter (SCE, 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, impacts associated with Alternative 6 are identical to the proposed Project and are less than significant (Class III).

Impact B-35: The Project would result in mortality of and loss of habitat for, special-status mammals.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction and improvement of access and spur roads, resulting in a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. This reduction in impacts would only affect the Los Angeles pocket mouse and San Diego black-tailed jackrabbit as potential habitat for the other species identified in Section 3.4.6.1 does not occur on the ANF and impacts to these species would be identical to the proposed Project (see Table 3.4-22). Any potential mortality associated with the implementation of Alternative 6 would be quite small relative to the overall population size and range of these species. Furthermore, because habitat for these species is limited in the ANF, and relatively abundant elsewhere, the habitat impacted by implementation of Alternative 6 would not substantially reduce available habitat, restrict the range, or cause regional populations to drop below self-sustaining levels. Implementation of APM BIO-1 and APM BIO-5 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) would minimize impacts to special-status mammal species. Therefore, impacts to these species as a result of implementation of Alternative 6 would be less than significant with mitigation incorporated (Class II).

Impact B-36: The Project would result in mortality of San Diego desert woodrats.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the amount of access and spur roads that would be constructed or improved, resulting in a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. As described in Section 3.4.6.1, direct impacts from construction activities would include the mortality of individual San Diego desert woodrats or disturbance (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment) to occupied desert woodrat nests. Construction and use of access roads would also result in impacts to this species. Indirect impacts to San Diego desert woodrats include the spread of noxious weeds that would degrade habitat quality and alteration of soils. However, implementation of APMs BIO-1 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1 (Implement Construction Fugitive Dust Control Plan) in the areas of suitable habitat would reduce impacts to less than significant (Class II). No further mitigation is required.

Impact B-37: The Project would result in mortality of and loss of habitat for, the ringtail.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the amount of access and spur roads that would be constructed and improved. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. Alternative 6 would result in a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. As described in Section 3.4.6.1, direct impacts due to construction activities would include mortality of individual ringtails or disturbance of ringtail maternity dens during the pup-rearing season (1 May to 1 September). The construction and use of access roads in riparian areas could also disturb denning ringtails. Construction noise, dust, human presence, or ground disturbance could result in the abandonment of these nest sites or result in mortality of juvenile animals. Indirect impacts to ringtail could include the spread of noxious weeds that would degrade habitat quality, degradation of water quality due to siltation, and alteration of soils. However, the implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan), would reduce impacts to ringtails to a less-than-significant level (Class II). No further mitigation is required.

Impact B-38: The Project would result in mortality of American badgers.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction and improvement of access and spur roads. This alternative would result in identical types of impacts to badgers, but comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. As described in Section 3.4.6.1, direct impacts to American badger include mechanical crushing

of individuals or burrows by vehicles and construction equipment, noise, dust, and loss of habitat. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. However, any potential mortality would be quite small relative to the overall population size of the American badger and this species has not been recently observed on the ANF. Implementation of APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No further mitigation is required.

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

Any loss of these habitats associated with the proposed Project or alternatives is significant. Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction and improvement of access and spur roads. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 85 RCAs. By avoiding these major riparian areas, Alternative 6 would result in the identical types of impacts to federally protected wetlands, but comprise a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. Helicopter staging areas associated with this alternative would be located in upland areas away from wetlands. However, improvements to remaining access roads and construction of towers may impact wetland habitats. If avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1 (Implement Construction Fugitive Dust Control Plan) would reduce the impacts to federally protected wetlands to less-than-significant levels (Class II). No further mitigation is required.

Interfere substantially with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

Alternative 6 follows the same route as the proposed Project, and consists of the same tower and transmission line characteristics, resulting in identical impacts to bird and bat migratory corridors. Implementation of APM BIO-9 as part of the proposed Project would ensure this impact would be less than significant (Class III). No further mitigation is required.

Impact B-41: Corona noise would result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor

conditions such as rain or fog. Alternative 6 follows the exact same route as the proposed Project and includes the same components along Segments 6 and 11 through the ANF. Implementation of Alternative 6 would result in exactly the same impacts related to corona noise as the proposed Project. As the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise of Alternative 6 would impact local wildlife. Corona noise is already present along most of Alternative 6, including in the ANF, and while Alternative 6 would result in louder corona noise for most segments and a new source of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 6 would not result in substantial impacts to wildlife due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction and improvement of access and spur roads. In addition, the West Fork Cogswell road which runs adjacent to the West Fork of the San Gabriel River would not be used and the construction of the Big Tujunga River crossing would not occur. This alternative would also restrict use of the Monte Cristo and Lynx Gulch roads and reduce potential effects to over 55 RCAs. With the implementation of this alternative there may be some temporary increases in noise effects from helicopter use to MIS such as spotted owl, mountain lion, song sparrow, or mule deer; however, these effects would be considered short term. In addition, loss of bigcone Douglas fir habitat would decrease from 6.9 acres under Alternative 2 to 5.2 acres under Alternative 6. However, loss of Coulter pine habitat would increase under this alternative (7.7 acres under Alternative 2 and 10.1 acres under Alternative 6). This alternative would result in a reduction in disturbance to important riparian areas where many MIS are known to occur. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction) would reduce impacts to less than significant (Class II). No further mitigation is required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Criterion BIO6)

Alternative 6 follows the same route as the proposed Project through the ANF, resulting in identical impacts to biological resources but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access and spur roads to be constructed or improved. However, because of the extensive planning involved in Project design, including implementation of APMs BIO-1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative 6 is consistent with the local and regional policies and ordinances protecting biological resources including the Los

Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act, and impacts related to Criterion BIO6 are identical to the proposed Project (no impact).

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Alternative 6 follows the same route as the proposed Project through the ANF with a net decrease of one helicopter staging area and a 42.5-mile reduction in the construction and improvement of access and spur roads, resulting in identical types of impacts to biological resources but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity. However, the area where Alternative 6 differs from the proposed Project is located outside of the WMPHCP coverage area and therefore would result in identical impacts as the proposed Project (no impact).

3.4.10.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternative 6. In Segments 6 and 11, the maximum number of towers would be constructed via helicopter, and 11 new helicopter staging areas would be constructed (12 helicopter staging areas would be constructed under the proposed Project).

Alternative 6 follows the same route as the proposed Project through the ANF, impacting similar habitats and species, but comprising a net decrease in the size and magnitude of direct and indirect impacts as a result of decreased ground-disturbing activity, including an approximate 42.5-mile reduction in the amount of access and spur roads to be constructed or improved.

Geographic Extent

Alternative 6 only differs from the proposed Project within the ANF. This area is still encompassed by the geographic extent of the cumulative analysis defined for Alternative 2 in Section 3.4.6.2. Therefore, the geographic extent of the cumulative analysis for Alternative 6 is exactly the same as that for Alternative 2 and would include all of the Northern, Central, and Southern Regions.

Existing Cumulative Conditions

The existing cumulative conditions for Alternative 6 are exactly the same as for Alternative 2, as described in Section 3.4.6.2.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 6 would be exactly the same as Alternative 2, described in Section 3.4.6.2.

Cumulative Impact Analysis

As described in Section 3.4.6.2, impacts associated with Alternative 6 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. Cumulative impacts of Alternative 6 would be less than cumulative impacts for Alternative 2, due to a decrease in new road construction and improvement.

Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 6 in Section 3.4.10.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level.

3.4.11 Alternative 7: 66-kV Subtransmission Alternative

The following section describes the impacts of Alternative 7 (66-kV Subtransmission Alternative) on Biological Resources, as determined by the significance criteria listed in Section 3.4.4.1. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. As described in Section 2.7, this alternative would deviate from the proposed Project along Segment 7, through the Duck Farm Project, where the 66-kV subtransmission line would be routed underground beginning at approximately S7 MP 8.9. The underground segment would extend approximately 6,000 feet, transitioning back to overhead construction at approximately S7 MP 9.9. The underground portion would follow the same route as the proposed Project (Alternative 2). Additionally, Alternative 7 includes a 66-kV underground re-route around the Whittier Narrows Recreation Area in Segment 7 that would exit the ROW at Peck Road and be placed underground. The underground re-route would follow Peck Road to Durfee Road, where it would turn west and continue along Durfee Road for approximately 3,000 feet before rejoining the proposed alignment (Alternative 2) at approximately S7 MP 12.025. Alternative 7 also includes a 66-kV re-route of overhead construction along Segment 8A, around Whittier Narrows Recreation Area. The re-route would occur from the San Gabriel Junction, extend along San Gabriel Boulevard to Durfee Avenue, to Siphon Road. The re-route would follow Siphon Road for approximately 2,100 feet before rejoining the ROW just east of the San Gabriel River. A new approximately 1,200-foot ROW would be required to cross from the existing 66-kV ROW on the west side of the San Gabriel River to the 220-kV ROW on the east side of the San Gabriel River, where the re-route would tie back into the Project ROW.

The portion of Segment 7 that would be re-routed underground through the Duck Farm Project for Alternative 7 is situated in an area that is primarily barren/developed, with pockets of ruderal habitat and disturbed annual grassland. The portion of Segment 7 that would be re-routed around the Whittier Narrows Recreation Area traverses barren/developed land and nonnative woodland. The portion of Segment 8A that would be re-routed around the Whittier Narrows Recreation Area consists of coastal sage scrub, barren/developed land, grassland, and several types of riparian vegetation. All the communities in this section support high concentrations of weeds. The Affected Environment along the rest of the Alternative 7 route in the Southern Region is identical to the proposed Project. Furthermore, temporary and permanent ground disturbance as it relates to the re-routed portions of the alternative would amount to only incremental increases in impacts to these additional areas.

3.4.11.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to Biological Resources are introduced in Section 3.4.4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion.

Impacts to Riparian or Natural Communities (Criterion BIO1)

Impacts associated with Criterion BIO1 for Alternative 7 would be the same as impacts associated with this criterion for the proposed Project. Although this alternative introduces three re-routes of part of the

66-kV subtransmission line in the Southern Region, the re-routes would cross identical types of habitats as the proposed Project (coastal sage scrub, barren/developed land, mulefat scrub, nonnative woodland, southern sycamore alder riparian woodland, ruderal grassland, southern arroyo willow riparian forest, southern cottonwood willow riparian forest, southern willow scrub). Temporary and permanent ground disturbance as it relates to the re-routed portion of the alternative would be primarily due to the undergrounding of two of the re-routed portions and the construction of overhead subtransmission line in the vicinity of the Whittier Narrows Recreation Area. New access and spur roads may also be required for the new approximately 1,200 foot ROW for the San Gabriel River crossing within Segment 8A associated with the Whittier Narrows 66-kV overhead re-route. The impacts and their associated mitigation measures that fall under Criterion BIO1 are summarized in the following paragraphs. Please see Section 3.4.6.1 (Direct and Indirect Effects Analysis) for a detailed description of these impacts, as they are the same as the proposed Project, and just vary in magnitude.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.

The Alternative 7 re-routes would impact primarily barren/developed areas. However, approximately 82 acres of mulefat scrub, 81 acres of ruderal grassland, and 37 acres of southern sycamore alder riparian woodland occur within the re-routed portions of this alternative, with additional natural communities present as well (see Table 3.4-15). It is unknown at this time what acreage of these and other natural communities present would be affected as final engineering has not been conducted on this alternative. Compared to the proposed Project, the additional acreage of native vegetation crossed and impacted by the re-routes would constitute marginally greater impacts under Alternative 7. The underground portions of the Alternative 7 re-routes would traverse barren/developed lands, ruderal grassland, and nonnative woodland. The overhead 66-kV sub-transmission line re-route along Segment 8A would traverse coastal sage scrub, barren/developed lands, ruderal grassland, and various riparian habitats. While these communities generally have a large weed component in the project area; they still provide habitat for wildlife, including several special-status species. As described in detail in Section 3.4.6.1, with the exception of agricultural or barren/developed land, construction activities that result in disturbance to the plant communities identified above would be considered a significant impact without mitigation. Therefore, Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporangin), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to native vegetation to less than significant (Class II) and no additional mitigation would be required.

Impact B-2: The Project would result in the loss of desert wash or riparian habitat.

Riparian habitat (approximately 14 acres of freshwater marsh, 83 acres of mulefat scrub, 1 acre of ruderal wetland, 3 acres of southern coast live oak riparian forest, 37 acres of southern sycamore alder riparian woodland, 14 acres of southern arroyo willow riparian forest, 21 acres of southern cottonwood willow riparian forest, 4 acres of sparsely vegetated streambed, and 17 acres of southern willow scrub) is present within the Alternative 7 overhead re-route. Impacts to riparian vegetation would be similar to the proposed Project, but would be slightly greater in magnitude in the Southern Region because of the additional riparian habitats crossed by the re-routed section of the Segment 8A 66-kV subtransmission line alignment. The underground portions of this alternative would not impact desert wash or riparian habitats.

Because of the overall loss of desert wash and riparian habitat within California, along with the role these habitats play in providing suitable habitat for several special-status species, the loss of riparian habitat associated with Alternative 7 would be significant without mitigation. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II) and no additional mitigation would be required.

Impact B-3: The Project would result in the establishment and spread of noxious weeds.

Impacts associated with noxious weeds would be the same as described for the proposed Project in the Northern and Central Regions. Alternative 7 includes one underground 66-kV subtransmission line segment along the proposed Project route in Segment 7, one underground 66-kV subtransmission line re-route along Segment 7, and one 66-kV subtransmission line re-route along Segment 8A that would be overhead construction. These re-routes would generally be within existing ROWs, except for the approximately 1,200-foot section of new ROW that would be required for the Segment 8A re-route and the underground section of Segment 7 around the Whittier Narrows Recreation Area. The new ROW required for the Segment 8A re-route would traverse an established population of giant reed (*Arundo donax*). In addition, all three re-routes would traverse areas supporting populations of various weed species. Because these re-routed segments would occur in areas that currently support weed populations, the potential for the spread of weeds into other less disturbed areas along the re-routes would be high. However, compared to the proposed Project as a whole, these additional impacted areas would only marginally increase the potential for the establishment and spread of noxious weeds in the Southern Region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce impacts to less than significant (Class II). Therefore, no additional mitigation measures would be required to minimize impacts due to noxious weeds.

Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.

Impacts to wildlife under Alternative 7 in the Northern and Central Regions would be identical to the proposed Project. In the Southern region, Alternative 7 includes one underground 66-kV subtransmission line segment along the proposed Project route in Segment 7, one underground 66-kV subtransmission line re-route along Segment 7, and one 66-kV subtransmission line re-route along Segment 8A that would be overhead construction. Two of the re-routes are in the vicinity of the Whittier Narrows Recreation Area. This area is contiguous with the San Gabriel River, which could provide a movement corridor from the San Gabriel Mountains and the Montebello and Puente Hills, which also constitute an east-west movement corridor across the southern San Gabriel Valley and into the Chino Hills and Cleveland National Forest to the southeast. Many species of wildlife utilize the Whittier Narrows Recreation Area as it is a pocket of open space within an otherwise urbanized environment. New access and spur roads could be required for the approximately 1,200-foot section of new ROW required for the Segment 8A re-route under this alternative. As discussed for the proposed Project, wildlife, including reptiles and small mammals, may be subject to mortality by vehicles on new and existing access roads both during construction and during maintenance activities for the duration of operation of this alternative. Compared to the proposed Project,

this alternative would result in similar, but marginally greater, impacts to wildlife. Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be implemented to reduce impacts to less than significant (Class II) and no additional mitigation measures would be required.

Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds and raptors.

Impacts to birds and raptors under Alternative 7 in the Northern and Central Regions would be identical to the proposed Project. In the Southern region, Alternative 7 includes one underground 66-kV subtransmission line segment along the proposed Project route in Segment 7, one underground 66-kV subtransmission line re-route along Segment 7, and one 66-kV subtransmission line re-route along Segment 8A that would be overhead construction. Two of the re-routes are in the vicinity of the Whittier Narrows Recreation Area. The Whittier Narrows Recreation Area is a pocket of open space in an urbanized environment and includes riparian habitats, nonnative woodland, and coastal sage scrub. These communities commonly support breeding birds, including raptors. Because the proposed transmission line would occur along the same route as the proposed Project, and would impact the same habitats, the subtransmission line re-routes associated with Alternative 7 would constitute marginally greater impacts to habitats that could support breeding birds. Additionally, if construction occurs during the breeding season for birds (generally February 1 through August 31 for raptors and March 15 through September 15 for other birds), impacts could include nest abandonment, failure to nest, and direct mortality of eggs and/or nestlings. With the exception of a few species, nesting birds are protected under the Migratory Bird Treaty Act. Nesting birds are also offered protection by the CDFG and raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and State law. Therefore, Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would be required to reduce impacts to nesting birds. Implementation of these mitigation measures would reduce impacts to less than significant (Class II). No additional mitigation measures would be required.

Impact B-6: The Project would cause the loss of foraging habitat for wildlife.

Impacts to wildlife foraging habitat under Alternative 7 would be the same as the proposed Project for the Northern and Central Regions. In the Southern Region, impacts would be marginally greater than the proposed Project due to the underground portion of Segment 7 that would go through the Duck Farm Project and the overhead Segment 8A re-route. Both of these components would impact potential foraging habitat for wildlife that would be in addition to the foraging habitat impacted by the proposed transmission line, which would follow the same route as the proposed Project. The underground portion of Segment 7 that would be placed outside of the Whittier Narrows Recreation Area would follow Durfee Avenue along primarily barren/developed lands. Impacts to foraging habitat for wildlife would be similar but marginally greater in magnitude than the proposed Project and would require the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control

Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). Implementation of the specified mitigation measures would reduce impacts to less than significant (Class II) and no additional mitigation measures would be required.

Impacts to Endangered or Threatened Species, or Proposed or Critical Habitat (Criterion BIO2)

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed plant and wildlife species. Impacts to these species are detailed below. Impacts to individual species would be the same as described for the proposed Project (Section 3.4.6.1) and would vary only in magnitude, as described below.

Impact B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.

Potential habitat for Brand's phacelia and thread-leaved brodiaea may occur within the Alternative 7 overhead re-route and this alternative would result in the incremental increase in the loss of habitat for, and potential disturbance to, these species. The implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.) would reduce impacts to Brand's phacelia and thread-leaved brodiaea and other endangered, threatened, and proposed plant species, if present, to less-than-significant levels (Class II). No additional mitigation measures would be required.

Impact B-8: The Project would result in the loss of California red-legged frogs and Mountain yellow-legged frogs.

The Alternative 7 re-routes would not occur in any areas that would support California red-legged frog or mountain yellow-legged frog populations. In the Alternative 7 project area, habitat for these species occurs only in the Central Region, where Alternative 7 is identical to the proposed Project. Therefore, impacts to these species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). The implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required to minimize impacts to these amphibians.

Impact B-9: The Project would result in the loss of arroyo toad.

Suitable habitat for the arroyo toad does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, habitat for this species occurs primarily in the Central Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to arroyo toads would be exactly the same as those described for the proposed Project (Section 3.4.6.1). SCE would be required to implement APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring). Implementation of these measures would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required to minimize impacts to arroyo toad.

Impact B-10: The Project would result in the loss of desert tortoise.

Suitable habitat for the desert tortoise does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, habitat for this species occurs only in the Northern Region where Alternative 7 is identical to the proposed Project. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required.

Impact B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.

Suitable habitat for the desert tortoise does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, habitat for this species occurs only in the Northern Region where Alternative 7 is identical to the proposed Project. Therefore, potential nest sites for common raven as a result of tower construction are not expected to change as a result of implementation of Alternative 7 and impacts would be the same as described for the proposed Project (Section 3.4.6.1). These impacts would not require mitigation because potential nest sites for common raven as a result of tower construction are not expected to increase appreciably. Therefore, additional populations of common raven and their predation pressure on the desert tortoise are not expected to result from additional towers, and impacts would be less than significant (Class III).

Impact B-12: The Project would result in the loss of special-status fish.

Suitable habitat for special-status fish is very limited in the re-routed portions of Alternative 7, and this area is not within the known distribution of the Santa Ana sucker, Santa Ana speckled dace, or unarmored threespine stickleback. While historically these species were likely present in the watershed they are no

longer expected to occur. The arroyo chub has some potential to occur as this species is widely distributed in the region. While there is some potential increase in indirect effects to waterways, the effects of this alternative would be largely the same as the proposed Project. With the exception of the arroyo chub, habitat for these species occurs only in the Central Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to special-status fish would be identical to those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce these impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Impact B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.

Critical habitat for the Santa Ana sucker does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, critical habitat for the Santa Ana sucker occurs only in the Central Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to critical habitat for the Santa Ana sucker would be identical to those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce these impacts to less than significant levels (Class II). Therefore, no additional mitigation measures would be required.

Impact B-14: The Project would result in the loss of California condor.

The California condor is not known to utilize the Alternative 7 project area in the vicinity of the three re-routes. However, flight paths are changing and there is the potential for this species to forage in this area in the future, although suitable nesting habitat is lacking. The Alternative 7 re-routes will not substantially reduce suitable habitat for the California condor or substantially increase impacts associated with micro-trash ingestion. Therefore, impacts to this species would be the same as those described for the proposed Project (Section 3.4.6.1). Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would reduce impacts to this species, if present, to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.

There are no known southwestern willow flycatcher occurrences in the Alternative 7 alignment, and the Alternative 7 re-routes do not fall within critical habitat for willow flycatchers (USFWS, 2005d). However, the Alternative 7 re-routes, as well as portions of the proposed transmission line, are within the historical range of the species. Potentially suitable nesting habitat is present within the Whittier Narrows Recreation Area and the Alternative 7 re-route to the Segment 8A 66-kV subtransmission line. The least Bell's vireo is known to nest along portions of Segment 8 and directly adjacent to Segment 7. Nesting least Bell's vireos have been confirmed at the Whittier Narrows Recreation Area and the Santa Fe Flood Control Basin. Suitable habitat for the least Bell's vireo occurs along the Alternative 7 above-ground re-route in Segment 8A. The yellow-billed cuckoo is not known to currently nest along any portions of Alternative 7. However, Alternative 7 is within the historical range of the yellow-billed cuckoo, and marginally suitable nesting habitat is present in the Whittier Narrows Recreation Area, including the above-ground Segment 8A re-route; Whittier Narrows Nature Center; and the Rio Hondo. Therefore, impacts to special-status riparian birds would be marginally greater than those described for the proposed Project (Section 3.4.6.1) and would require implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would reduce impacts to listed riparian birds, if present, to less than significant (Class II). Therefore, no additional mitigation measures would be required.

Impact B-16: The Project would result in the loss of coastal California gnatcatchers.

The coastal California gnatcatcher is known to nest within the Southern Region along Segments 7 and 8 in the Montebello Hills, Coyote Hills near Fullerton, and the Puente-Chino Hills. Approximately 14.9 acres of coastal sage scrub habitat occurs within the western portion of the above-ground Segment 8A 66-kV subtransmission line re-route, which is suitable for coastal California gnatcatcher. Therefore, impacts to this species would be the same but marginally greater in magnitude than those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). No additional mitigation measures would be required.

Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.

As described above, suitable habitat for this species occurs in the Alternative 7 Segment 8A 66-kV subtransmission line re-route, and marginally greater impacts to this species are associated with the alternative. Designated critical habitat occurs in the vicinity of the Whittier Narrows Recreation Area. An additional 1.15 miles of subtransmission line would be constructed within designated critical habitat under

this alternative. Additionally, the coastal California gnatcatcher is known to nest within the Southern Region along Segments 7 and 8 in the Montebello Hills, Coyote Hills near Fullerton, and the Puente-Chino Hills. Suitable Coastal Sage Scrub habitat within the proposed Project also exists along the San Gabriel River within the Whittier Narrows Recreation Area and within the Segment 8A 66-kV re-route of Alternative 7. During focused surveys conducted in August 2007 through January 2008 for the proposed Project, gnatcatchers were detected in the Montebello Hills along Segment 8, at the Puente Hills Landfill near Segment 8, and just south of Turnbull Canyon Road along Segment 8. Impacts to the coastal California gnatcatcher habitat would be marginally greater than those described for the proposed Project (Section 3.4.6.1) under this alternative and would require implementation of APMs BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Impact B-18: The Project would disturb nesting Swainson's hawks.

Suitable habitat for nesting Swainson's hawks does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species is likely to nest only in the Northern Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to nesting Swainson's hawks would be identical to the proposed Project. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). No additional mitigation measures would be required.

Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.

As described under Impact B-18 above, suitable habitat for nesting Swainson's hawks does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species is likely to occur only in the Northern Region where Alternative 7 is identical to the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre- and during construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Impact B-20: The Project would result in electrocution of State and/or federally protected birds.

Among birds, raptors are the most susceptible to electrocution on transmission lines because of their larger size and tendency to perch on transmission poles and towers. The majority of raptor electrocutions are caused by lines that are energized at voltage levels between 1 kV and 69 kV, and "the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low" (APLIC 2006). Because implementation of Alternative 7 would introduce overhead 66-kV subtransmission lines in Segment 8A in an area that currently does not have active subtransmission lines, the impacted area would be greater in

size, and the potential for electrocution of State and/or federally protected birds would be slightly greater. However, the two underground re-routes associated with this alternative would eliminate the potential for electrocution along the undergrounded portions of the line. Therefore, the number of electrocution events would still be insufficient to substantially reduce the number of State and/or federally protected bird species under Alternative 7. SCE would implement APMs BIO-4 and BIO-9 in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006). However, because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. Impacts to State and/or federally protected birds resulting from electrocution would be less than significant with the implementation of APMs BIO-4 and BIO-9 (Class III) and no mitigation is required.

Impact B-21: The Project would result in result in collision with overhead wires by State and/or federally protected birds.

Because implementation of Alternative 7 would decrease the length of subtransmission lines along Segments 7 and 8 by a total of approximately 1.76 miles, the impacted area would be slightly smaller in size and the potential for collisions with overhead wires by State and/or federally protected birds would be slightly lower. However, the overhead re-route along Segment 8A would introduce subtransmission line conductors in a primarily riparian area that currently includes subtransmission towers but no conductors. This would marginally increase the potential for line strikes in this area. However, the number of collisions along this approximately 1.63-mile portion of subtransmission line is expected to be low. Therefore, the overall number of collision events with overhead wires would still be quite low and insufficient to substantially reduce the number of State and/or federally protected bird species. This impact would require implementation of APM BIO-9 and the incorporation of raptor safety protection into the project design (i.e., tower/conductor [lines] on NFS lands) to reduce impacts to State and/or federally protected birds resulting from transmission line collisions. Line collisions as a result of Project implementation will not substantially reduce the number of State and/or federally protected birds, cause populations to drop below self-sustaining levels, restrict the range, or threaten to eliminate populations. Therefore, impacts to State and/or federally protected birds resulting from transmission and subtransmission line collisions would be less than significant (Class III) and no additional mitigation is required.

Impact B-22: The Project would result in disturbance to Mohave ground squirrel.

Suitable habitat for the Mohave ground squirrel does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species is likely to occur only in the Northern Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to this species would be exactly the same as those described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-4 through BIO-7 and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct protocol surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrel), and B-22c (Preserve off-site habitat for Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

Impact B-23: The Project would result in loss of candidate, Forest Service Sensitive, or special-status plant species.

The re-routed portions of Alternative 7 contain habitat that could potentially support several special-status plant species, such as California androsace, Davidson's saltscale, and Parry's spineflower. Impacts to these and any other special-status plant species found to be present would require avoidance (Mitigation Measure B-7, Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.), and, if avoidance is infeasible, off-site acquisition and preservation of occupied habitat (Mitigation Measure B-23, Preserve offsite habitat/management of existing populations of special-status plants). Temporarily impacted habitat would be restored upon completion of construction (Mitigation Measure B-1a, Provide restoration/compensation for impacts to native vegetation communities). As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). In addition, a Worker Environmental Awareness Program would be implemented (Mitigation Measure B-1b, Implement a Worker Environmental Awareness Program) and dust control measures would also be implemented (Mitigation Measure AQ-1a, Implement Construction Fugitive Dust Control Plan). Implementation of these mitigation measures would reduce impacts to less than significant (Class II). No additional mitigation measures would be required.

Impact B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

If pond turtles are present, damage or destruction of southwestern pond turtle nesting areas would constitute a significant impact under CEQA without mitigation. Nesting areas are frequently used by multiple individuals, and suitable nesting habitat can be limited in many areas. Destruction of southwestern pond turtle nesting areas would result in a substantial reduction in numbers of this rare species. Compared to the proposed Project, Alternative 7 crosses near additional habitats that could potentially support pond turtles. Therefore, impacts to this species would be of the same type but of slightly greater magnitude as those described for the proposed Project (Section 3.4.6.1). Implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7, and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would prevent mortality or injury of pond turtles, avoid damage or destruction of nesting areas or mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required.

Impact B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Compared to the proposed Project, Alternative 7 crosses near additional habitats that could potentially support two-striped garter snakes and south coast garter snakes. Therefore, impacts to these species would be of the same type but slightly greater in magnitude as those described for the proposed Project and would require implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to avoid injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required.

Impact B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.

Suitable habitat for Coast Range newts does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area this species is likely to occur only in the Central Region and portions of the Southern Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to this species would be exactly the same as described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II). Therefore, no additional mitigation measures would be required.

Impact B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species (special-status terrestrial herpetofauna).

Compared to the proposed Project, slightly more ground disturbance would occur under Alternative 7. Ground disturbance would occur along Durfee Avenue and within the Duck Farm Project as the 66-kV line would be placed underground in these locations. Additionally, if new towers are required for the Segment 8A overhead re-route, the construction of those towers would also create additional land disturbance. Several special-status terrestrial herpetofauna could be present within the Duck Farm Project underground and Segment 8A overhead re-routes, including silvery legless lizard, coast patch-nosed snake, San Bernardino ringneck snake, and San Diego horned lizard. The re-route along Durfee Avenue is in a primarily developed area and consequently would not be expected to support special-status terrestrial herpetofauna. Because implementation of Alternative 7 would slightly increase ground

disturbance, impacts would be slightly larger in size and magnitude for several of the special-status terrestrial herpetofauna species, if present. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-28: The Project would disturb wintering mountain plovers.

Suitable habitat for wintering mountain plovers does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species is likely to occur only in the Northern Region where Alternative 7 is identical to the proposed Project. Under the proposed Project, these impacts were found to be less than significant. Therefore, these impacts would not require mitigation. Impacts to wintering mountain plovers resulting from construction disturbance are considered less than significant (Class III) for Alternative 7. No additional mitigation measures would be required.

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

The re-routed portions of Alternative 7 traverse some suitable habitat for burrowing owl. Because implementation of Alternative 7 would increase the ground disturbance associated with the Project, the impacted area would be slightly larger in size, and the loss of occupied burrowing owl habitat would potentially be slightly greater in magnitude than that described for the proposed Project. Impacts would be identical to the proposed Project in all other areas of this alternative. These impacts would require the implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of the specified mitigation measures for the proposed Project would reduce impacts to less than significant (Class II).

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

Suitable habitat for California spotted owl does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species occurs only in the Central Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to California spotted owl would be exactly the same as the proposed Project (Section 3.4.6.1) and would require implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Impacts to the California spotted owl resulting from loss of occupied habitat are considered less than significant with mitigation (Class II). Additional mitigation measures would not be required.

Impact B-31: The Project would disturb nesting California spotted owls.

As described above under Impact B-29, suitable habitat for California spotted owl does not occur in the re-routed portions of Alternative 7. In the Alternative 7 project area, this species occurs only in the

Central Region where Alternative 7 is identical to the proposed Project. Therefore, impacts to nesting California spotted owls would be exactly the same as those described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) to reduce impacts to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Impact B-32: The Project would disturb nesting avian “species of special concern.”

Construction-related disturbance that causes nest abandonment and/or loss of reproductive effort would constitute a significant impact and violate the MBTA. Compared to the proposed Project, Alternative 7 would impact slightly more riparian, coastal sage scrub, and nonnative woodland habitats that could support nesting avian species of special concern. Therefore, disturbance to these species would potentially be slightly greater in magnitude than that described for the proposed Project (Section 3.4.6.1). However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No additional mitigation measures would be required.

Impact B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.

Alternative 7 would include construction of an overhead 66-kV subtransmission line through coastal sage scrub, ruderal grassland, nonnative woodland, and various riparian habitats. All of these vegetation communities could potentially support special-status bat species. Therefore, potential for mortality of and loss of habitat for special-status bat species would be slightly greater in magnitude over the proposed Project if suitable trees, particularly trees ≥ 12 inches in diameter at 4.5 feet above grade with loose bark or other cavities, are present prior to construction activities. In all areas other than this re-route, impacts to special-status bat species would be exactly the same as described for the proposed Project. If active hibernacula and maternity roosts are present and cannot be avoided, impacts would be significant. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II). Additional mitigation would not be required under this alternative.

Impact B-34: The Project would result in transmission line strikes by special-status bat species.

As implementation of Alternative 7 would re-route subtransmission lines along Segments 7 and 8 underground by a total of approximately 1.76 miles, the impacted area would be slightly smaller in size, and the potential for collisions with overhead wires by special-status bat species would be slightly lower. However, the overhead re-route along Segment 8A would introduce subtransmission line conductors in a primarily riparian area that currently includes subtransmission towers but no conductors. This would marginally increase the potential for line strikes in this area. Alternative 7 would potentially impact

special-status bat species through the direct take of individuals from fatal strikes with transmission and subtransmission lines. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inches in size (Vaughan 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inches in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. In addition, 954 kcmil AAC subtransmission line conductor has a diameter of approximately 1.12 inches, large enough for bats to detect through echolocation. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species, and impacts would be less than significant (Class III).

Impact B-35: The Project would result in mortality of and loss of habitat for, special-status mammals.

Suitable habitat for southern grasshopper mouse, San Diego black-tailed jackrabbit, and northwestern San Diego pocket mouse occurs within the re-routed portions of Alternative 7. Although the habitat impacted by implementation of Alternative 7 would not substantially reduce available habitat, there remains the possibility of mortality to these species during construction and maintenance activities. Implementation of APM BIO-1 and APM BIO-5 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize impacts to special-status mammal species. Therefore, impacts to these species as a result of implementation of Alternative 7 would be less than significant with mitigation incorporated (Class II).

Impact B-36: The Project would result in mortality of San Diego desert woodrats.

Alternative 7 would not increase the likelihood of mortality to the San Diego desert woodrat as the species is not likely occur within the Alternative 7 re-routes due to a lack of suitable habitat. Therefore, impacts to this species would be identical to those described for the proposed Project (Section 3.4.6.1). Construction activities would substantially reduce regional populations of this species in the Chino and Puente Hills without mitigation. Impacts to this species as a result of Project implementation would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures would be required.

Impact B-37: The Project would result in mortality of and loss of habitat for, the ringtail.

Marginal habitat for ringtail occurs in the Whittier Narrows Recreation Area in the vicinity of the Segment 8A overhead 66-kV subtransmission line re-route. This additional acreage of riparian habitat, compared to the proposed Project, would marginally increase the magnitude of impacts to ringtail, if present. In all other areas, impacts to ringtail would be identical to those described for the proposed Project (Section 3.4.6.1) and would require the implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate

during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan), which would reduce Alternative 7 impacts to ringtails to a less-than-significant level (Class II). No additional mitigation measures would be required.

Impact B-38: The Project would result in mortality of American badgers.

Suitable grassland habitat for American badgers exists within the Segment 7 Duck Farm Project underground portion and the Segment 8A overhead re-route of the 66-kV subtransmission line. The Segment 7 underground re-route along Durfee Avenue does not support suitable habitat for American badgers as it traverses primarily developed lands. The potential for mortality of American badgers along the re-routed portions of this alternative is small, as potential habitat acreages are small and fragmented. However, any potential mortality would be significant but implementation of APMs BIO-1, BIO-4, BIO-5, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II). No additional mitigation measures would be required.

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project would result in the loss of wetland habitats.

The above-ground Segment 8A re-route would traverse riparian habitat near federally protected wetlands in the Whittier Narrows Recreation Area. Any loss of these habitats associated with the proposed Project is significant. Implementation of this alternative may increase the potential to disturb wetland habitat. If avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the impacts to federally protected wetlands to less-than-significant levels (Class II). Therefore, no additional mitigation measures would be required.

Interfere substantially with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

Impact B-40: The Project would interfere with established bird and bat migratory corridors.

Alternative 7 would potentially impact migrating bird and bat species through interference with established migratory corridors as a result of fatal collisions with transmission and subtransmission lines. Because implementation of Alternative 7 would introduce 66-kV subtransmission lines in an area that currently does not support subtransmission lines, interference with bird and bat migratory corridors could be slightly greater in magnitude. However, the frequency of transmission line strikes is still expected to be extremely low. Therefore, implementation of Alternative 7 would not substantially interfere with established bird or bat migratory corridors, and impacts to migrating bird and bat species would be less than significant (Class III).

Impact B-41: Corona noise would result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Because implementation of Alternative 7 would introduce 66-kV subtransmission lines in an area that currently does not support subtransmission lines, this impact is potentially slightly greater in magnitude than the proposed Project. However, corona noise is not known to occur on subtransmission lines at levels that would cause disturbance. In addition, the two underground re-routes associated with this alternative would eliminate the potential for corona noise from the 66-kV subtransmission lines in the area of the Duck Farm Project and along Durfee Avenue in the City of South El Monte. Corona noise impacts associated with the transmission facilities that are proposed for this alternative would be identical to those described for the proposed Project. As the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Corona noise is already present along most of Alternative 7, and while Alternative 7 would result in louder corona noise for most segments and a new sources of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 7 would not result in substantial impacts due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

In the Alternative 7 project area, MIS occur only in the Central Region (ANF) where Alternative 7 is identical to the proposed Project. Therefore, impacts to MIS would be exactly the same as described for the proposed Project (Section 3.4.6.1) and would require implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction access routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction) to reduce impacts to less than significant (Class II). No further mitigation is required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

Because of the extensive planning involved in project design, including implementation of APMs BIO-1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative 7 is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act. No additional policies or ordinances apply to the Alternative 7 re-routes. Therefore, no impact would occur.

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Implementation of Alternative 7 will not affect the conservation goals of the WMPHCP differently than was described for the proposed Project because the re-routes associated with this alternative do not occur within the WMPHCP planning area. Therefore, no impact would occur.

3.4.11.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternative 7 (66-kV Subtransmission Alternative). This alternative consists of an underground 66-kV subtransmission line segment through the Duck Farm Project along Segment 7, a brief underground re-route of the 66-kV subtransmission line along Durfee Avenue around the Whittier Narrows Recreation Area, and an above-ground re-route of the 66-kV subtransmission line in the vicinity of the Whittier Narrows Recreation Area and the San Gabriel River. The remainder of this alternative route and the transmission line components of this Alternative would be identical to that of the proposed Project and would, therefore, result in identical impacts as the proposed Project. The re-routed portion of the Alternative 7 route generally parallels the proposed Project route. As a result, this alternative traverses the same or similar habitat types as the portion of the proposed Project 66-kV subtransmission route it is proposed to replace, would require the same types of construction activities to build, and would result in the same operational capacity as the proposed Project. Based on the substantial similarity of Alternative 7 to the proposed Project, this alternative's contribution to cumulative impacts would be identical to that of the proposed Project.

Geographic Extent

Alternative 7 only differs from the proposed Project for a very small portion of the proposed 66-kV subtransmission line route in the vicinity of the Whittier Narrows Recreation Area along Segments 7 and 8A and the Duck Farm Project along Segment 7. These areas are still encompassed by the geographic extent of the cumulative analysis defined for Alternative 2 in Section 3.4.6.2. Therefore, the geographic extent of the cumulative analysis for Alternative 7 is exactly the same as that for Alternative 2 and would include all of the Northern, Central, and Southern Regions.

Existing Cumulative Conditions

The existing cumulative conditions for Alternative 7 are exactly the same as for Alternative 2, as described in Section 3.4.6.2.

Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 7 would be exactly the same as Alternative 2, described in Section 3.4.6.2.

Cumulative Impact Analysis

As described in Section 3.4.6.2, impacts associated with Alternative 7 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The minor re-routes of the proposed Project 66-kV subtransmission lines

associated with Alternative 7 would not differ from the proposed Project’s contribution to cumulative impacts and therefore, cumulative impacts of Alternative 7 would be exactly the same as cumulative impacts for Alternative 2.

Mitigation to Reduce the Project’s Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 7 in Section 3.4.11.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative’s incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level.

3.4.12 Impact Significance Summary

Table 3.4-27 summarizes the direct and indirect environmental impacts of the proposed Project (Alternative 2) and the other alternatives on biological resources. The direct and indirect effects of the Project and alternatives have been fully described in Sections 3.4.6 through 3.4.11 above. Alternative 1 (No Project/No Action) impacts are fully described in Sections 3.4.5; however, since no potential future project information is available an impact significance level for Alternative 1 is not included in the table below.

Table 3.4-27. Summary of Impacts and Mitigation Measures – Biological Resources										
Impact	Impact Significance								NFS Lands*	Mitigation Measures
	Alt. 1+	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7			
B-1: Construction activities would result in temporary and permanent losses of native vegetation.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a: Provide restoration/compensation for impacts to native vegetation communities. B-1b: Implement a Worker Environmental Awareness Program. B-1c: Treat cut tree stumps with Sporax AQ-1a: Implement Construction Fugitive Dust Control Plan. H-1a: Implement an Erosion Control Plan and demonstrate compliance with water quality permits.
B-2: The Project would result in the loss of desert wash or riparian habitat.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, AQ-1a, H-1a B-2: Implement RCA Treatment Plan
B-3: The Project would result in the establishment and spread of noxious weeds.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-2 B-3a: Prepare and implement a Weed Control Plan. B-3b: Remove weed seed sources from construction access routes. B-3c: Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads.

Table 3.4-27. Summary of Impacts and Mitigation Measures – Biological Resources										
Impact	Impact Significance								Mitigation Measures	
	Alt. 1+	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	NFS Lands*		
B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a, H-1a
B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a B-5: Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat.
B-6: The Project would cause the loss of foraging habitat for wildlife.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a, H-1a
B-7: The Project would disturb endangered, threatened, or proposed plant species or their habitat.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a, H-1a B-7: Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.
B-8: The Project would result in the loss of California red-legged frogs and mountain yellow-legged frogs.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a, H-1a B-8a: Conduct protocol surveys for California red-legged frogs and implement avoidance measures. B-8b: Conduct biological monitoring. H-1b: Dry weather construction.
B-9: The Project would result in the loss of arroyo toads.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, B-8b, AQ-1a, H-1a, H-1b B-9: Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas.
B-10: The Project would result in the loss of desert tortoises.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	No	B-1a, B-1b, B-3a, AQ-1a B-10: Conduct presence or absence surveys for desert tortoise and implement avoidance measures.
B-11: The Project would result in mortality of desert tortoises as a result of increased predation by common ravens.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Class III	No	None recommended.
B-12: The Project would result in the loss of special-status fish.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, B-8b, H-1a, H-1b B-12: Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.

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Table 3.4-27. Summary of Impacts and Mitigation Measures – Biological Resources									
Impact	Impact Significance								Mitigation Measures
	Alt. 1+	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	NFS Lands*	
B-13: The Project would result in the loss of Critical Habitat for the Santa Ana sucker.	Not known	Class II	Class II	Class II	Class II	Class II	Class III	Yes	B-1a, B-1b, B-2, B-3a, B-8b, H-1a, H-1b, B-12
B-14: The Project would result in the loss of California condors.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, B-8b B-14: Monitor construction in condor habitat and remove trash and micro-trash from the work area daily.
B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, B-5, AQ-1a, H-1a B-15: Conduct protocol surveys for listed riparian birds and avoid occupied habitat.
B-16: The Project would result in the loss of coastal California gnatcatchers.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1b, AQ-1a B-16: Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures.
B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-3a, B-15, AQ-1a B-17: Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher.
B-18: The Project would disturb nesting Swainson's hawks.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	No	B-1b, AQ-1a B-18a: Conduct pre-construction surveys for Swainson's hawks. B-18b: Removal of nest trees for Swainson's hawks.
B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	No	B-1a, B-3a, B-17a, AQ-1a B-19: Compensate for loss of foraging habitat for Swainson's hawks.
B-20: The Project would result in electrocution of State and/or federally protected birds.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Yes	None recommended.
B-21: The Project would result in collision with overhead wires by State and/or federally protected birds.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Yes	None recommended.
B-22: The Project would result in disturbance to Mohave ground squirrels.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	No	B-1a, B-1b, B-3a, AQ-1a B-22a: Conduct protocol surveys for Mohave ground squirrels. B-22b: Implement construction monitoring for Mohave ground squirrels. B-22c: Preserve off-site habitat for the Mohave ground squirrel.

Table 3.4-27. Summary of Impacts and Mitigation Measures – Biological Resources

Impact	Impact Significance								Mitigation Measures	
	Alt. 1+	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	NFS Lands*		
B-23: The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, B-7, AQ-1a, H-1a B-23: Preserve offsite habitat/management of existing populations of special-status plants.
B-24: The Project would result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a, H-1a, H-1b B-24: Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures.
B-25: The Project would result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a, H-1a, H-1b B-25: Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures.
B-26: The Project would result in injury or mortality of, and loss of habitat for, Coast Range newts.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a, H-1a, H-1b B-26: Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures.
B-27: The Project would result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a B-27: Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna.
B-28: The Project would disturb wintering mountain plovers.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Class III	No	None recommended.
B-29: The Project would result in the loss of occupied burrowing owl habitat.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	No	B-1a, B-1b, B-3a, AQ-1a B-29: Implement CDFG protocol for burrowing owls.
B-30: The Project would result in the loss of occupied California spotted owl habitat.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-3a, AQ-1a B-30: Conduct pre- and during construction nest surveys for spotted owl.
B-31: The Project would disturb nesting California spotted owls.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1b, B-29, AQ-1a
B-32: The Project would disturb nesting avian "species of special concern."	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, B-5, AQ-1a

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Table 3.4-27. Summary of Impacts and Mitigation Measures – Biological Resources										
Impact	Impact Significance								Mitigation Measures	
	Alt. 1+	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	NFS Lands*		
B-33: The Project would result in mortality of, and loss of habitat for, special-status bat species.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a B-33a: Maternity colony or hibernaculum surveys for roosting bats. B-33b: Provision of substitute roosting bat habitat. B-33c: Exclude bats prior to demolition of roosts.
B-34: The Project would result in transmission line strikes by special-status bat species.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Class III	Yes	None recommended.
B-35: The Project would result in mortality of, and loss of habitat for, special-status mammals.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a
B-36: The Project would result in mortality of San Diego desert woodrats.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a B-36: Conduct focused surveys for San Diego desert woodrats and passively relocate.
B-37: The Project would result in mortality of, and loss of habitat for the ringtail.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a, H-1a B-37: Conduct focused surveys for ringtail and passively relocate ringtail during the non-breeding season.
B-38: The Project would result in mortality of American badgers.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-3a, AQ-1a B-38: Conduct focused surveys for American badger and passively relocate during the non-breeding season.
B-39: The Project would result in the loss of wetland habitats.	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-2, B-3a, AQ-1a, H-1a
B-40: The Project would interfere with established bird and bat migratory corridors.	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Class III	Yes	None recommended.
B-41: Corona noise would result in disturbance to wildlife	Not known	Class III	Class III	Class III	Class III	Class III	Class III	Class III	Yes	None recommended.
B-42: The Project would result in effects to Management Indicator Species	Not known	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Yes	B-1a, B-1b, B-1c, B-2, B-3a, B-3b, B-3c, B-5, B-8b, B-9, B-30, AQ-1a, H-1a, H-1b

* Indicates whether this impact is applicable to the portion of the Project on National Forest System lands.

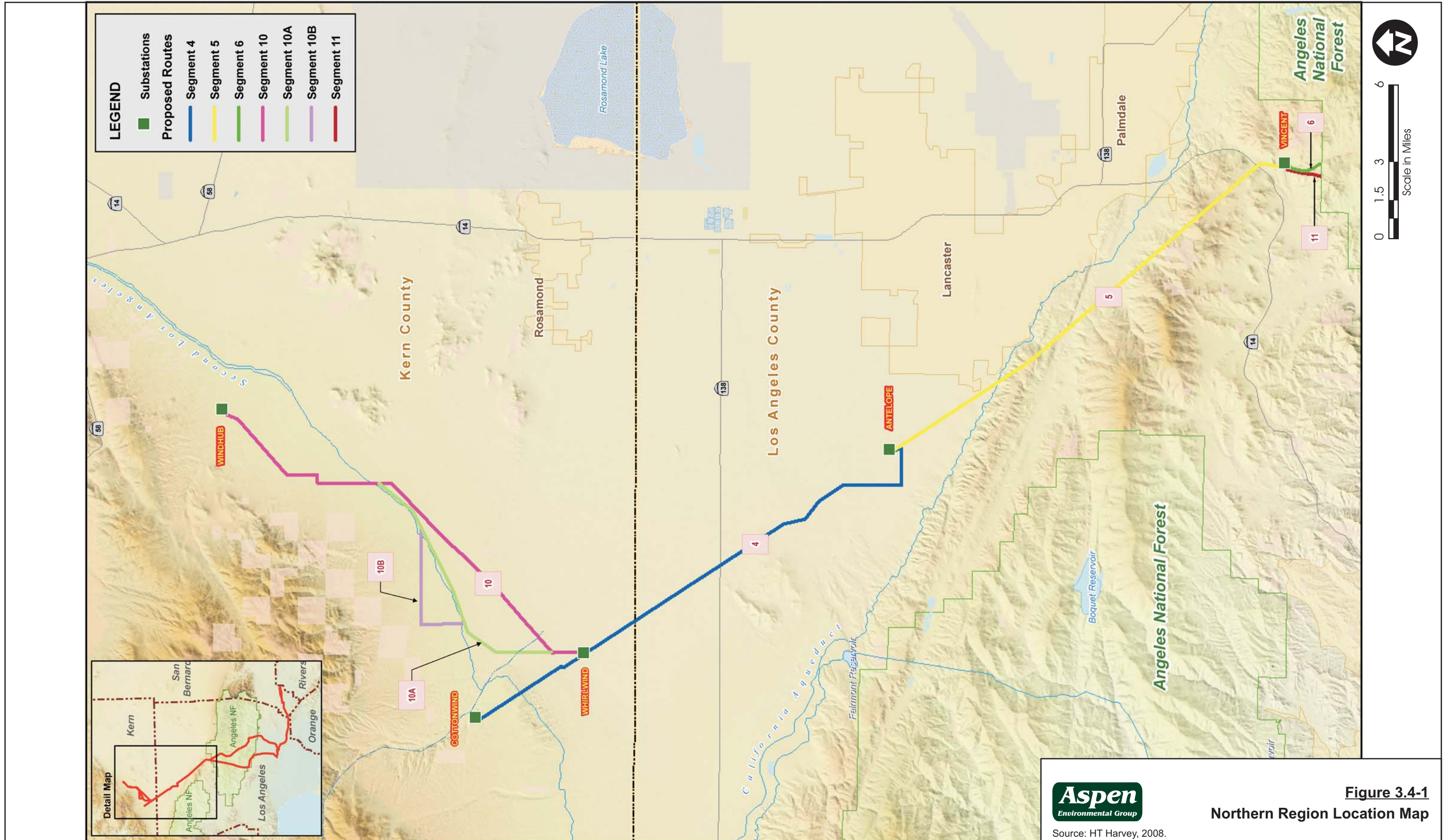
* Potential projects would likely traverse the same geographic regions as either the proposed Project or Alternatives 3 through 7, and subsequently introduce similar types of impacts

Class I – Significant, unavoidable impact

Class II – Less than significant impact with mitigation incorporated

Class III – Less than significant impact

Class IV – Beneficial impact



Source: HT Harvey, 2008.

Figure 3.4-1
Northern Region Location Map

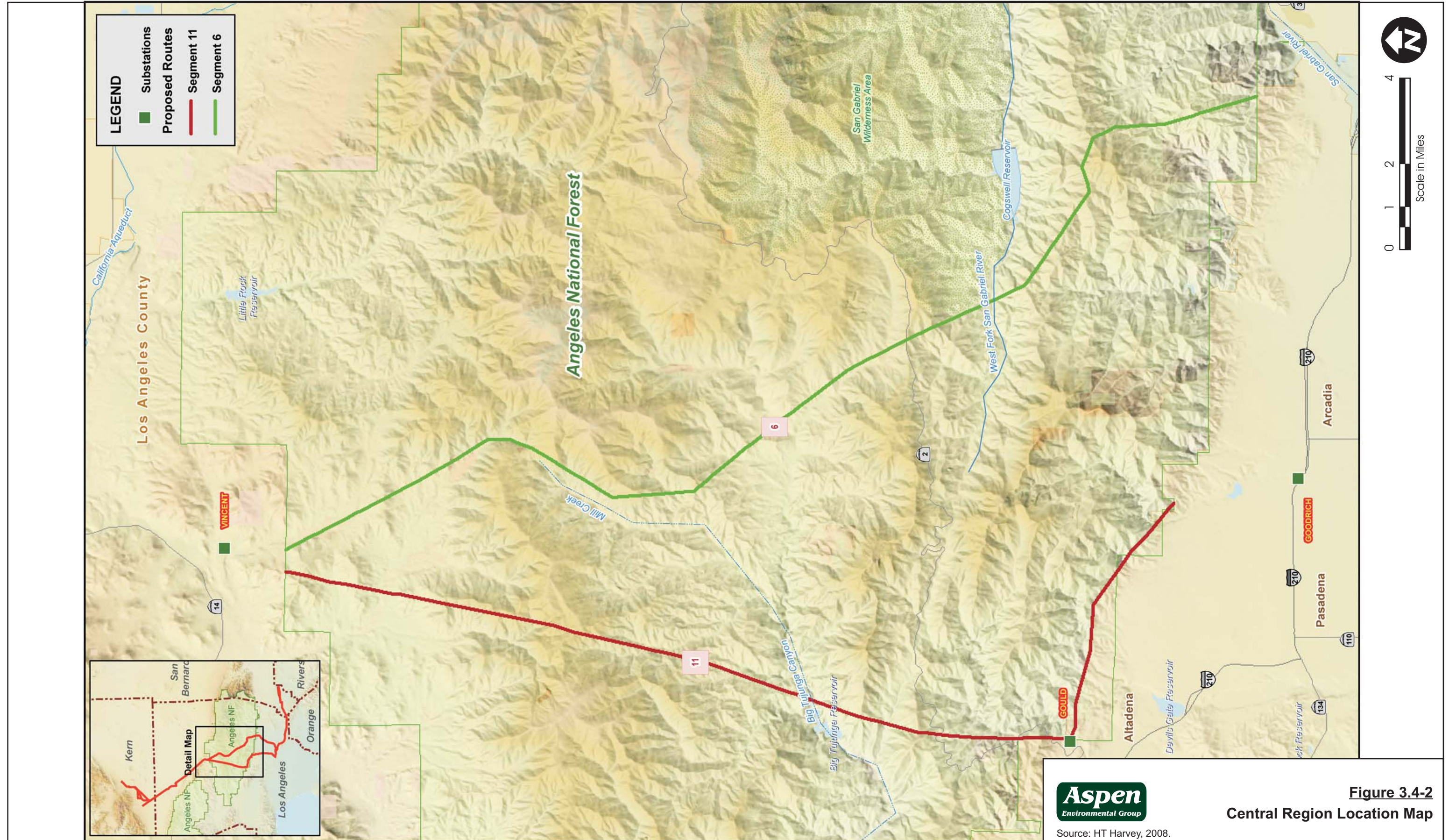


Figure 3.4-2
Central Region Location Map

