

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). The data collection and survey methodology for biological resources is provided below (Section 2.1) as well as a description of the regional setting (Section 2.2). Section 2.3 provides the local setting for the proposed Project. 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, CDFG Species of Special Concern, California Native Plant Society List species, and FS Sensitive species) are also described. Sections 2.4 through 2.8 discuss the setting for each proposed Project alternative.

2.1 Baseline Data Collection Methodology

The following section 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.

The assessment of biological resources within the proposed Project began with a comprehensive review of all available documents and species and habitat data provided by SCE, the FS, US Fish and Wildlife Service (FWS), California Department of Fish and Game (CDFG), and other agencies. Biological resource data sources included, but were not limited to, the following:

- Aerial photographs, Geographic Information Systems (GIS) data, United States Geological Survey (USGS) topographic maps, and the California Natural Diversity Database (CNDDDB)
- Previously prepared reports and regional planning documents (general plan policies, Habitat Conservation Plans [HCPs], and Environmental Impact Reports [EIRs])
- The PEA and SCE's associated technical reports and data (including vegetation mapping and special-status species locations and survey data)

Based on a comprehensive review of this information, the extent of biological resource data coverage along the proposed Project was ascertained, data gaps were identified, and additional information was requested as needed. Following the background review of existing information, independent field verification of all data was conducted, un-surveyed portions of the proposed Project were inventoried, and biological resources were evaluated. GIS-based maps were created prior to the field verification effort, which included SCE's vegetation layer and known species locations obtained from CNDDDB (2007) and SCE (2007). These maps were exported to Toughbook field computers and used in combination with Global Positioning System (GPS) units to accurately refine existing data layers and record new data.

2.1.1 Special-status Plant Species Surveys

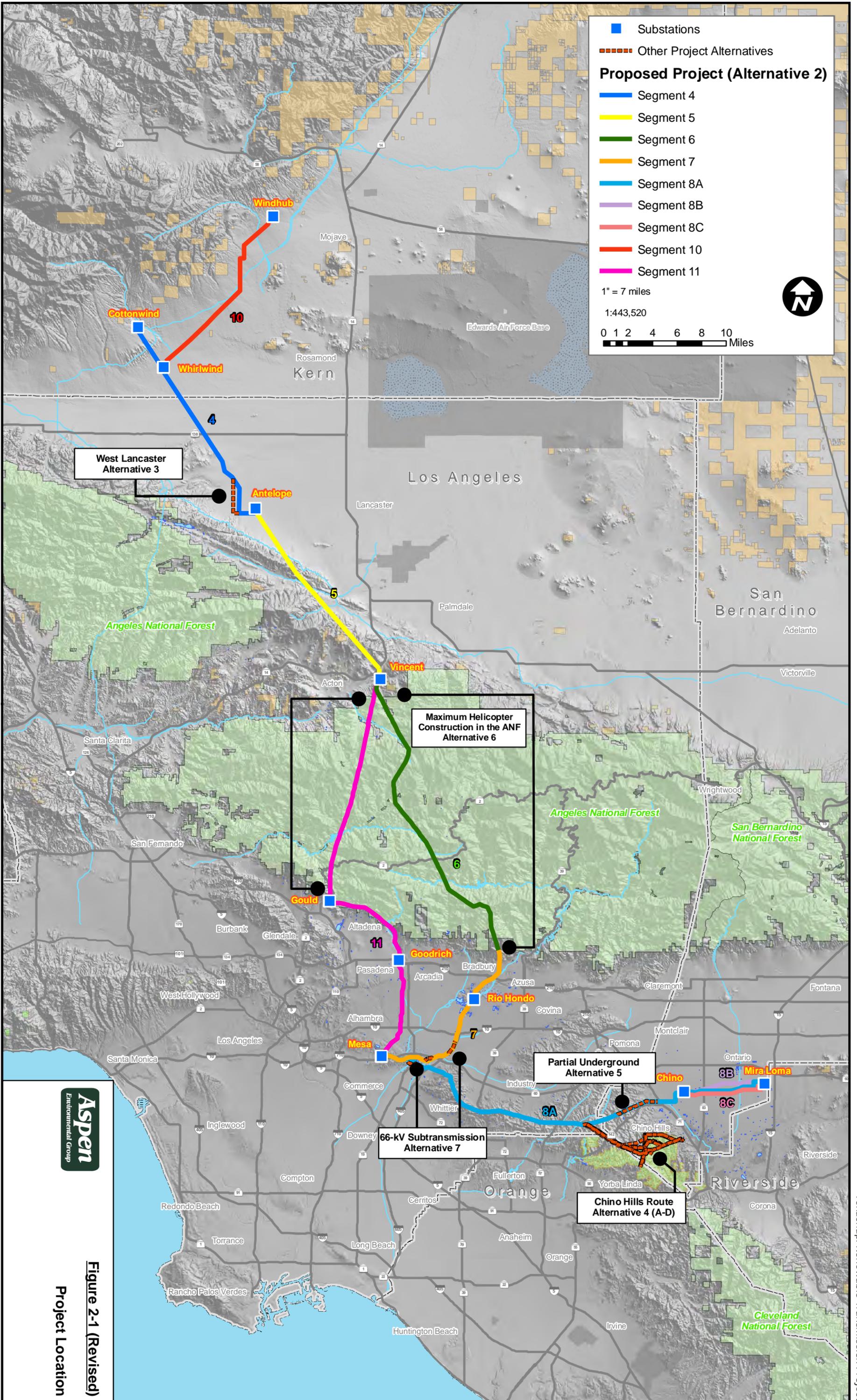
An initial list of special-status plants with the potential to occur within the proposed Project was compiled from several sources. The CNDDDB was queried for special-status plants within the 21 U.S. Geological Survey (USGS) 7.5-minute quadrangles that contain the proposed Project and for the eight quadrangles surrounding each of these (Appendix C). A query of the CNPS Inventory was also performed for special-status plant species occurring in Kern, Los Angeles, San Bernardino, Orange, and Riverside counties in the following

habitats: chaparral, chenopod scrub, cismontane woodland, coastal scrub, Joshua tree woodland, lower montane conifer forest, Mojave desert scrub, pinyon and juniper woodland, riparian forest, riparian scrub, and valley and foothill grassland. These habitats were chosen based on their similarity to the habitats present within the proposed Project. The results of the CNDDDB and CNPS queries were combined. In addition, any taxa listed as sensitive by the FS (included on the Angeles National Forest [ANF] list of sensitive plants or the ANF watch list [ANF 2006]) or listed by the FWS that were not included in the combined results of the CNDDDB and CNPS searches were added to produce an initial list of 520 plants. From that list, 436 plants were removed from further consideration (Appendix D) based upon factors including: lack of suitable habitat, distributional range, elevational range, and the specific soil type (edaphic) requirements of the species. A total of 84 plants were retained for further consideration; their common and scientific names, listing status, preferred habitats, and potential for occurrence within each specific Region and Segment of the project study area are presented in Tables 2-5, 2-9, and 2-13 and Appendix E.

To determine the probability of occurrence for special-status plant species within the proposed Project, information concerning the known distribution and habitat preferences of threatened, endangered, or other special-status plant taxa was collected from several sources and reviewed. The sources included the CDFG's Natural Diversity Database (CNDDDB 2007, Appendix C); The CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2007); *The Jepson Manual* (Hickman 1993); *A Flora of Southern California* (Munz 1974); Calflora (2007); the Consortium of California Herbaria (CCH 2007); *A Field Guide to the Rare Plants of the Angeles National Forest* (USDA 1995); and information available through the FWS, CDFG, FS, and technical publications. In addition, local botanical experts were consulted for information regarding several taxa.

Information regarding the known distribution, habitat requirements, elevational range, and edaphic requirements was also used to evaluate the probability of occurrence of special-status plants. Plants determined to be absent from the proposed Project and the reason(s) for their rejection are listed in Appendix D. Plants occurring only on CNPS List 4 (considered a "watch list") were rejected from further analysis if they occur in two or more counties within the state. However, List 4 taxa with restricted distributions and those potentially occurring in the Central Region and given special status by the FS were retained for analysis. All special-status plant species retained for analysis, including their listing status, habitat requirements, and likelihood for occurrence are presented in Section 2.2.

Focused botanical surveys of the proposed Project were conducted during June, July, August, September, October, November, and December, 2007. Additional focused surveys were conducted during February, March, April, May, June, and July, 2008. Surveys of access roads for Segment 6 on the ANF were conducted in May, 2009. The purpose of these surveys was to verify data compiled from previous surveys conducted by SCE (2007), document and evaluate the vegetation types present, and to determine the potential occurrence of special-status and invasive plants. Plant taxa were identified to the lowest taxonomic level possible using a variety of taxonomic keys including *The Jepson Manual* (Hickman 1993) and *A Flora of Southern California* (Munz 1974). The scientific names for all plant taxa are reported using the nomenclature of Hickman (1993). In cases where the regulatory agencies or the California Native Plant Society (CNPS) recognize different nomenclature for a taxon, the alternative name is provided parenthetically to the name used by Hickman (1993). Plant species observed within the proposed Project were identified and recorded (Appendix F).



- Substations
- Other Project Alternatives
- Proposed Project (Alternative 2)**
- Segment 4
- Segment 5
- Segment 6
- Segment 7
- Segment 8A
- Segment 8B
- Segment 8C
- Segment 10
- Segment 11

1" = 7 miles
1:443,520

0 1 2 4 6 8 10 Miles

West Lancaster
Alternative 3

Maximum Helicopter
Construction in the ANF
Alternative 6

Partial Underground
Alternative 5

66-kV Subtransmission
Alternative 7

Chino Hills Route
Alternative 4 (A-D)



Figure 2-1 (Revised)
Project Location

Due to scheduling constraints, the 2007 focused surveys of the proposed Project were conducted outside of the blooming period for the majority of the special-status plants in the area. Furthermore, in Southern California, rainfall totals for the 2006-2007 growing season were among the lowest on record (NWS, 2007), resulting in conditions that were very poor for the detection of many plant species, especially annuals. Therefore, the proposed Project was surveyed for habitat capable of supporting these species based on factors such as soil type, disturbance regime, species composition of native vegetation, and known records in the vicinity of the proposed Project. The 2008 surveys do not replace the future “clearance” pre-construction surveys which would be best accomplished closer to the actual time of Project build-out due to the likelihood of seed movement, possible changes in existing conditions (i.e., a large fire would induce “fire loving” species to germinate), or emergence of dormant seed.

To better refine habitat assessment and the special-status species analysis during a year with normal or above-normal precipitation (2008), we used a targeted, adaptive sampling methodology where all impact areas that could be safely accessed were surveyed (tower locations where access is extremely difficult, excessively time consuming (>4 hrs), or where safety concerns predominate, were not surveyed). We used an adaptation of protocol-level surveys (see “intuitive controlled transect” description, below) at impact locations using methodology approved by CNPS and CDFG to describe the biological resources of the affected environment and inform the special-status species analysis. The 2008 surveys do not replace the future “clearance” pre-construction surveys which would be best accomplished closer to the actual time of Project build-out due to the likelihood of seed movement, possible changes in existing conditions (i.e., a large fire would induce “fire loving” species to germinate), or emergence of dormant seed.

At each impact site, each team of botanists looked for microhabitats capable of supporting special-status plant species, and also developed a complete species list for the impact area. In addition, known locations of special-status plant species were visited to document blooming and research herbaria specimens from UC Riverside and Rancho Santa Ana Botanic Gardens, and agencies and local floristic experts such as local CNPS chapter members were consulted. This acquired knowledge allowed botanists to use an “intuitive controlled transect” approach to focus survey efforts in microhabitats capable of supporting special-status plant species. Impact areas were surveyed thoroughly, but, using this intuitive method, special attention was given to microhabitat types within dense chaparral or desert scrub. This allowed botanists to “learn” where to look in future survey efforts, simplifying the survey effort while not sacrificing accuracy in detecting special-status plant species. Impact area visits were surveyed from one to three times, depending on the professional opinion of locally trained botanists for each impact area’s capability of supporting special-status plant species (Dave Silverman has worked in the Antelope Valley for more than 15 years, Orlando Mistretta has worked in the Angeles National Forest for over 15 years and is currently writing the Flora of the San Gabriel Mountains, and Scott White has worked in the Chino/Puente Hills for more than 15 years and is an associate of Rancho Santa Ana Botanical Garden).

2.1.2 Vegetation Type Mapping

Surveys for the purpose of evaluating the vegetation types within the proposed Project were conducted simultaneously with the reconnaissance-level surveys for special-status plants described above. The boundaries of vegetation types previously mapped by SCE (2007) along the proposed Project were independently field verified and refined as necessary with the aid of a Toughbook field computer running ArcMap 9.0 and an attached GPS unit. This navigation system enabled the observers to identify their location on the ground relative to the mapped vegetation with a high level of accuracy (usually within 15 feet). The route of the

proposed Project was verified either by vehicle in areas where roads follow the existing right-of-way, or by foot, when possible, in areas without roads. In some remote areas, particularly on the steeper slopes within the ANF, the boundaries or extent of vegetation types were checked visually using binoculars. The dominant and characteristic plant species occurring in each of the mapped vegetation types were recorded during the surveys, and the vegetation alliance (or “series”) represented by the stands of vegetation were identified using the keys provided by Gordon and White (1994) and/or Sawyer and Keeler-Wolf (1995).

The vegetation maps supplied by SCE (2007) generally classified the vegetation types within the proposed Project according to the nomenclature of Holland (1986). The widely-used Holland classification system is a qualitative system that lacks keys or specific criteria for the identification of stands of vegetation. The system has now been largely replaced by the quantitative, hierarchical, and floristically based International Vegetation Classification System (IVCS; Grossman et al. 1998), which has become the standard accepted by the majority of the state and federal agencies in California including CDFG, FS, and the National Parks Service. While the majority of the Holland (1986) vegetation types used by SCE (2007) were retained for the final vegetation map, a crosswalk to the corresponding IVCS types identified using Gordon and White (1994) and/or Sawyer and Keeler-Wolf (1995) is provided in Table 2-1. Some of the Holland chaparral vegetation types in the original vegetation map were not retained in the final map. A discussion of the treatment of the chaparral vegetation types is presented in Section 2.3 under the description of Mixed Chaparral. Details regarding the mapped vegetation types are presented in Section 2.3, and Appendices G and H.

2.1.3 Special-status Wildlife Species Surveys

Prior to conducting reconnaissance-level wildlife surveys of the proposed Project, information concerning the known distribution of threatened, endangered, or other special-status and significant wildlife species with potential to occur within the proposed Project was collected from several sources and reviewed. The sources included existing vegetation maps prepared for the proposed Project, the CNDDDB (2007), and information available through the FWS, CDFG, and regional documents such as the West Mojave Plan. Furthermore, species survey data and results compiled by SCE (2007/2008) in conjunction with the preparation of the PEA and associated technical reports were reviewed, independently field verified, and supplemented as necessary.

The CNDDDB was queried for occurrences of special-status wildlife species within the USGS topographical quadrangles in which the proposed Project occurs and the eight surrounding quadrangles (Appendix C). The specific habitat requirements and the locations of known occurrences of each special-status wildlife species were the principal criteria used for inclusion in the list of species potentially occurring within the proposed Project. Seven species were rejected from consideration due to the lack of suitable habitat, because the proposed Project is outside the species range, or because the species does not breed within the proposed Project (Appendix I). Expanded descriptions are included for those species for which suitable habitat is available, where specific surveys would be conducted, or where the resource agencies have expressed particular concern. All special-status wildlife species retained for analysis, including their listing status, habitat requirements, and likelihood for occurrence are presented in Section 2.3.

Table 2-1. Vegetation Cross-walk				
Vegetation Type Category	HTH Mapped Vegetation Types	PEA Mapped Vegetation Types	MCV ¹	CWHR ²
Anthropogenic	Agriculture	Agriculture		Deciduous Orchard
				Evergreen Orchard
				Irrigated Grain Crops
				Irrigated Hayfield
				Irrigated Row and Field Crops
	Barren/Developed	Developed Disturbed		Urban
Herbaceous	Bunchgrass Grassland	Native Grassland	Purple Needlegrass Series	Perennial Grassland
	California Annual Grassland	Non-native Grassland	California Annual Grassland Series	Annual Grassland
			Cheatgrass Series	
	Desert Bunchgrass Grassland		Desert Needlegrass Series	
	Ruderal Grassland	Disturbed Ruderal	California Annual Grassland Series	Annual Grassland
	Sparsely Vegetated Streambed	Unvegetated Channel		
Riparian	Freshwater Marsh	Freshwater Marsh	Bulrush - Cattail Series	Freshwater Emergent Wetland
			Bulrush Series	
			Cattail Series	
			Sedge Series	
	Ruderal Wetland	Disturbed Wetland		Freshwater Emergent Wetland
	Southern Arroyo Willow Riparian Forest	Southern Arroyo Willow Riparian Forest	Arroyo Willow Series	Valley Foothill Riparian
	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood-Willow Riparian Forest	Fremont Cottonwood Series	Valley Foothill Riparian
	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	California Sycamore Series	Valley Foothill Riparian
Southern Willow Scrub	Southern Willow Scrub	Arroyo Willow Series	Valley Foothill Riparian	
		Black Willow Series		
		Narrowleaf Willow Series		
		Red Willow Series		
Shrubland	Big Sagebrush Scrub	Big Sagebrush Scrub	Big Sagebrush Series	Sagebrush
	Chamise Chaparral	Chamise Chaparral	Chamise Series	Chamise-Redshank Chaparral
	Coastal Sage Scrub	Coastal Sage Scrub	California Buckwheat - White Sage Series	Coastal scrub
			California Buckwheat Series	
			California Sagebrush - Black Sage Series	
			California Sagebrush - California Buckwheat Series	
		California Sagebrush Series		
Desert Saltbush Scrub	Desert Saltbush Scrub	Fourwing Saltbush Series	Alkali Desert Scrub	

Table 2-1. Vegetation Cross-walk

Vegetation Type Category	HTH Mapped Vegetation Types	PEA Mapped Vegetation Types	MCV ¹	CWHR ²
			Mixed Saltbush Series	
	Desert Wash		Fourwing Saltbush Series Rubber Rabbitbrush Series	Desert Wash
	Exotic-Arundo donax	Exotic - Arundo Donax	Giant Reed Series	Mixed Chaparral
	Interior Live Oak Scrub	Interior Live Oak Woodland	Interior Live Oak - Canyon Oak Shrub Series Interior Live Oak - Chaparral Whitethorn Shrub Series Interior Live Oak - Scrub Oak Shrub Series Interior Live Oak Shrub Series	
	Mixed Chaparral	Coastal Sage Scrub-Chaparral Scrub Mix Northern Mixed Chaparral Southern Mixed Chaparral Upper Sonoran Ceanothus Chaparral Semi-Desert Chaparral	Bigberry Manzanita Series Birchleaf Mountain-Mahogany - California Buckwheat Birchleaf Mahogany-Mahogany Series Chamise - Bigberry Manzanita Series Chamise - Eastwood Manzanita Series Chamise - Hoaryleaf Ceanothus Series Chamise - Wedgeleaf Ceanothus Series Chamise - White Sage Series Chaparral Whitethorn Series Eastwood Manzanita Series Hairyleaf Ceanothus Series Hoaryleaf Ceanothus Series Scrub Oak - Birchleaf Mountain-Mahogany Series Scrub Oak - Chamise Series Scrub Oak - Chaparral Whitethorn Series Sumac Series	Mixed Chaparral
	Mojave Creosote Bush Scrub	Mojave Creosote Bush Scrub	Creosote Bush Series	Desert Scrub
	Mojave Desert Wash Scrub	Mojave Desert Wash Scrub	Catclaw Acacia Series	Desert Wash
	Mojave Juniper Woodland and Scrub	Mojavean Juniper Woodland and Scrub	California Juniper Series	Juniper Pinyon-Juniper
	Mojave Mixed Woody Scrub	Mojave Mixed Woody Scrub	Joshua Tree Series	Desert Scrub
	Mule Fat Scrub	Mule Fat Scrub	Mulefat Series	Valley Foothill Riparian
	Recently Burned, Early Successional	Burned	California Annual Grassland Series	
	Recently Burned Mojavean Juniper and Pinyon Woodland	Burned	Scrub Oak Series	

Table 2-1. Vegetation Cross-walk				
Vegetation Type Category	HTH Mapped Vegetation Types	PEA Mapped Vegetation Types	MCV¹	CWHR²
	Rabbitbrush Scrub	Rabbitbrush Scrub	Rubber Rabbitbrush Series	Bitterbrush Sagebrush
	Riversidean Alluvial Fan Sage Scrub	Riversidean Alluvial Fan Sage Scrub	Scalebroom Series	
	Scrub Oak Chaparral	Scrub Oak Chaparral	Canyon Live Oak Shrub Series Mixed Scrub Oak Series Scrub Oak Series	Mixed Chaparral
Woodland	Bigcone Douglas Fir-Canyon Oak Forest	Big Cone Spruce-Canyon Oak Forest	Bigcone Douglas-fir - Canyon Live Oak Series Bigcone Douglas-fir Series	Montane Hardwood Conifer
	California Walnut Woodland	California Walnut Woodland	California Walnut Series	Coastal Oak Woodland
	Canyon Oak Forest	Canyon Oak Forest	Canyon Live Oak Series	Montane Hardwood
	Coast Live Oak Woodland	Coast Live Oak Woodland	Coast Live Oak Series	Coastal Oak Woodland
	Coulter Pine Forest	Coulter Pine Forest	Coulter Pine - Canyon Live Oak Series Coulter Pine Series	Montane Hardwood Conifer
	Joshua Tree Woodland	Joshua Tree Woodland	Joshua Tree Series	Joshua Tree
	Mojave Pinyon Woodland	Mojavean Pinyon Woodland	California Juniper Series Singleleaf Pinyon Series	Pinyon-Juniper
	Non-native Woodland	Non-native Woodland Mixed Woodland	Eucalyptus Series	Eucalyptus
	Southern Coast Live Oak Riparian Forest	Coast Live Oak Riparian Forest	Coast Live Oak Series	Coastal Oak Woodland
	California Bay Forest		California Bay Series	Montane Hardwood

¹ MCV = Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). The term "series" in the MCV is synonymous with the currently accepted term, "alliance".

² CWHR = California Wildlife Habitat Relationships (CDFG 2007).

2.1.3.1 Herpetological Surveys

Reconnaissance-level field surveys were conducted on 24-29 September 2007 for habitat capable of supporting special-status amphibians and reptiles. Prior to conducting these surveys, information concerning the known distribution of the species was reviewed as described above, including previous survey data compiled by SCE (2007/2008/2009) for the arroyo toad, mountain yellow-legged frog, California red-legged frog, desert tortoise, southwestern pond turtle, and two-striped garter snake. Surveys were conducted by driving the proposed Project where passable roads were available, and subsequently employing a random walk visual encounter survey methodology to assess suitable habitat for special-status amphibians and reptiles. These surveys focused on suitable lotic, riparian, and canyon habitats, and locations where the proposed Project crossed these habitat types, even if no standing or flowing water was present. Walking surveys were conducted in suitable habitats and adjacent upland areas in accessible portions of the proposed Project. Habitats were visually assessed with the aid of binoculars at inaccessible locations where steep canyons were present. In these cases, the presence/ absence of water, the structure of the streambed, and vegetation composition and canopy structure were ascertained to determine the potential occurrence of special-status amphibians and reptiles.

Habitat was assessed for potential to support the arroyo toad at five locations along Segment 6 and six locations along Segment 11 in the ANF in 2007 (21 May) and 2008 (mid-April). In addition, 24 riparian crossings were identified by the FS and Aspen and assessed by SCE in 2008 from 4 June through 20 June. Of these, night surveys were conducted at two locations on 2 June, two locations on 5 June (1 toad observed at Lynx Gulch), and five locations on 11 June. A 2007 survey in the Alder Creek area consisted of a single site visit as a toad was detected at that time. Therefore, additional follow-up surveys were not required. A 6-visit protocol survey for the toad was conducted in 2008 at Kentucky Springs. No toads were detected at this location. Although a protocol survey was not conducted, a single adult toad was found on June 5, 2008 within the "Arizona crossing" on Lynx Gulch Road (Forest Service Route 4N18). In addition, a dead arroyo toad was found by FS personnel in July 2008 on Lynx Gulch Road near the intersection with Upper Big Tujunga Road. A 6-visit protocol survey for the toad was conducted in 2009 (23 April through 11 June) at Kentucky Springs. No toads were detected at this location. A 6-visit protocol survey for the toad was conducted in 2009 (23 April through 11 June) at Aliso Canyon. No toads were detected at this location.

Habitat was assessed for potential to support the California red-legged frog at the following locations in 2007 (19 December) and 2008 (14 April): Segment 5 Milepost (MP) 7.7-7.8 (Amargosa Creek crossing) – Focused survey in 2007. Focused surveys were not conducted in 2008 because the site was surveyed for a different project in 2007 & 2008 with negative results for this species. Segment 5 MP 9.9 (Anaverde Creek crossing) was assessed in 2007 only. Focused surveys were not conducted at this location as no water and no riparian vegetation were present (upland plant species in shallow drainage). No overhanging or emergent vegetation was present at the crossing. In addition, habitat was evaluated at locations assessed for the mountain yellow-legged frog (see below). No habitat for the California red-legged frog was observed at any of those nine locations in 2007 or 2008. Focused surveys occurred between 13 and 15 June 2006, and on 29 September 2007 (stream was dry) at the Amargosa Creek crossing. The nearest known population is approximately three miles from the crossing, but has not been documented since the 1990s. Protocol surveys were conducted at the Amargosa Creek crossing in 2007 (22-23 March; 5 & 25 April; 15 May; and 5 July) and 2008 (16 & 27 March; 14 & 23 April; 5 May; 9-10 June; and 3 July) for the ATP Segments 2&3 project, and surveys were negative for this species both years. FWS protocol surveys are being conducted for the 2009 survey season northeast of Monte Cristo Campground (Segment 6), at the Amargosa Creek Crossing (Segment 5), and in Tonner Canyon (Segment 8).

Within the project area, habitat was assessed for potential to support the mountain yellow-legged frog at three locations along Segment 6 and six locations along Segment 11 in 2007 (31 May, 19 September, 9 October) and 2008 (15-16 April). These locations were also evaluated for the potential to support red-legged frogs during the habitat assessments. Focused surveys were conducted by SCE in 2007 along Segment 6 at MP 14.0-16.6 (Big Tujunga Creek). These surveys were conducted during the day on 31 May, 19 September, and 9 October. In 2008, focused surveys were conducted by SCE along Segment 6 at MP 14.0-16.6 (Big Tujunga Creek). These surveys were conducted during the day on 14 and 15 May, 26 June, and 15 August. Also in 2008, surveys were conducted along Segment 11 at MP 3.4-3.6 (Aliso Canyon). These surveys were conducted during the day on 2 June and 12 August. Focused surveys also occurred along Segment 11 at MP 24.0-24.2 (Eaton Canyon) and were conducted during the day on 30 May, 13 June, and 24 July 2008.

Protocol-level surveys for the desert tortoise were completed by SCE in 2007 and 2008 for the Windhub Substation site, which is not a part of the TRTP but is located at the northern terminus of Segment 10. These surveys identified several burrows but no sign of recent use was noted. Focused, non-protocol level surveys for desert tortoises conducted in support of the TRTP EIR/EIS occurred in June 2006 in portions of Segment 10 in the Northern Region where habitat is present and where access had been granted. Reconnaissance-level surveys were conducted across Segments 4 and 10 in June 2006 and September 2007. Although habitat is present, no sign of desert tortoise was detected. Protocol-level surveys were conducted by SCE in 2009 along Segment 4 (4 through 8 May), and Segment 10 and Whirlwind Substation (18 through 28 April). Surveys were conducted within the West Mojave Plan Clearance Survey Areas.

2.1.3.2 Avian Surveys

Special-Status Avian Habitat and Risk Assessment Surveys

Surveys for special-status bird species were conducted on 18–20 July, 13–16 August, 17–21 September, 25–28 September, and 2–4 October 2007. The purpose of these surveys was to identify habitat capable of supporting special-status bird species, verify data compiled from previous surveys conducted by SCE (2007), and to assess the potential risk for avian collisions as a result of the proposed Project. Prior to conducting these surveys, information concerning the known distribution of the species was reviewed as described above, including previous survey data compiled by SCE (2007/2008) for California spotted owl, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher. Furthermore, aerial photographs, vegetation maps, and data provided in SCE's "Road Story" were reviewed, and potential locations of increased risk for avian collisions with transmission lines were identified.

Special-status avian habitat surveys were conducted by driving all segments of the proposed Project where roads were passable, and visually inspecting locations in which suitable habitat was present. Particular attention was given to areas with previous records of special-status bird species and to riparian and coastal sage scrub habitats.

Following the identification of locations of increased risk for avian collisions, surveys were also conducted to verify the habitat conditions and the potential risk for avian collisions. The level of potential risk was evaluated based on (1) the location of the proposed lines relative to the geographic features identified below, (2) the numbers and types of birds detected at the sites, (3) avian activity patterns observed (e.g., soaring raptors, flocking water birds), and (4) an assessment of the potential for weather variables such as high winds or fog to increase the risk. Surveys focused on locations where transmission lines crossed or paralleled ridgelines, crossed rivers or mountain passes, and in areas adjacent to freshwater marsh, water, or riparian habitats.

A five-visit protocol survey for the southwestern willow flycatcher was conducted in 2007 (5 June, 18 June, 28 June, 6 July, and 11 July) at four locations along Segment 6 in the ANF, and a five-visit protocol survey was also conducted in the Aliso Canyon area along Segment 11 (4 June, 13 June, 3 July, 9 July, 16 July). A five-visit protocol survey was conducted in 2008 (7 June, 14 June, 23 June, 29 June, and 10 July) at the Whittier Narrows Nature Center and Rio Hondo along Segment 7, and a five-visit protocol survey was also conducted in 2008 (8 June, 15 June, 24 June, 6 July, and 13 July) at the Whittier Narrows Recreation Area and San Jose Creek along Segment 8. In 2009, a five-visit protocol survey was conducted at a location along Segment 6 off of Angeles Forest Highway on the ANF (22 May, 3 June, 24 June, 1 July, and 9 July). This location is along Aliso Creek, approximately 0.5 mile south of Aliso Canyon Road. Also in 2009, protocol surveys were conducted at upper Fall Creek (22 May, 3 June, 24 June, 1 July, and 9 July) along Segment 11, south of Mt. Gleason Road on the ANF; and at Mill Creek along Forest Road 4N18 near Segment 6, between Angeles Forest Highway and the transmission line on the ANF (27 May, 9 June, 25 June, 1 July, and 13 July). This road is proposed as an access route for Segment 6. A five-visit protocol survey was conducted in 2009 (27 May, 9 June, 25 June, 1 July, and 13 July) at Monte Cristo Creek along Segment 6, between Monte Cristo Campground and the transmission line on the ANF; and at Lynx Gulch Road along Segment 6 on the ANF (27 May, 4 June, 26 June, 1 July, and 7 July). The portion of Lynx Gulch Road near Segment 6 was surveyed for southwestern willow flycatchers in 2007, with negative results. Surveys in 2009 focused on the portion of Lynx Gulch Road that is proposed as an access road. A five-visit protocol survey was also conducted in 2009 (27 May, 4 June, 26 June, 1 July, and 7 July) at upper Big Tujunga. This site is along Segment 6, near the transmission line's intersection with Upper Big Tujunga Canyon Road on the ANF. The portions of upper Big Tujunga Creek near the transmission line were surveyed for southwestern willow flycatchers in 2007, with negative results. The 2009 surveys focused on the access road, which leads from near the Forest Service Shortcut Station to the southern terminus of the 2007 survey area.

A five-visit protocol survey for southwestern willow flycatcher was conducted concurrently with an eight-visit least Bell's vireo protocol survey in 2009 (23 April, 7 May, 18 May, 28 May, 8 June, 23 June, 6 July, and 16 July) along the West Fork Cogswell Road. This road is paved, and is proposed as an access route for Segment 6 on the ANF. The survey location includes the entire road from Highway 39 to Cogswell Reservoir (approximately 7 miles). A five-visit protocol survey was conducted for southwestern willow flycatcher concurrently with an eight-visit least Bell's vireo protocol survey in 2009 (27 April, 15 May, 26 May, 5 June, 16 June, 26 June, 7 July, and 17 July) at the Segment 5 crossing of Amargosa Creek. This drainage is located west of Palmdale, along the northern edge of Elizabeth Lake Road.

A five-visit protocol survey for the southwestern willow flycatcher is being conducted concurrently with an eight-visit yellow-billed cuckoo protocol survey in 2009 (19 May, 10 June, 24 June, 29 June, 8 July, and 3 more visits are scheduled for yellow-billed cuckoo) at the Rio Hondo. This drainage crosses both Segments 7 and 8. In addition, a five-visit protocol survey was conducted in 2009 (19 May, 10 June, 24 June, 29 June, and 8 July) at the Whittier Narrows Recreation Area. This area also includes both Segments 7 and 8. A five-visit protocol survey was conducted concurrently with an eight-visit least Bell's vireo protocol survey in 2009 (24 April, 13 May, 27 May, 8 June, 18 June, 29 June, 9 July, and 15 July) at the Whittier Narrows Nature Center along Segment 7.

A five-visit protocol survey for the southwestern willow flycatcher was conducted concurrently with an eight-visit least Bell's vireo protocol survey in 2009 (18 May, 28 May, 8 June, 19 June, 30 June, 10 July, 15 July, and 31 July) at Tonner Canyon along Segment 8. Several isolated patches of habitat were identified along Segment 8 between the 57 freeway and the City of Chino Hills.

An 8-visit protocol survey for the least Bell's vireo was conducted between 7 June and 30 July 2007 at the Whittier Narrows Nature Center and Rio Hondo, and an 8-visit protocol survey was conducted between 8 June and 31 July 2007 at the Whittier Narrows Recreation Area and San Jose Creek.

Protocol surveys were conducted for the coastal California gnatcatcher in 2007 and 2008 at two locations along Segment 7: Santa Fe Dam (nine visits between 24 Aug 2007 and 16 Jan 2008) and the Quarries (nine visits between 24 Aug 2007 and 11 Jan 2008). Along Segment 8, protocol surveys were conducted at seven locations: Montebello Hills (one visit on 5 Sept 2007 [site is monitored by FWS so no protocol surveys were conducted here]), Puente Hills Landfill (nine visits between 6 Sept 2007 and 14 Jan 2008), Puente Hills Agricultural Fields (nine visits between 21 Sept 2007 and 4 Feb 2008), Turnbull Canyon Road-Holmes Circle (nine visits between 5 Sept 2007 and 17 Jan 2008), Colima-Hacienda (nine visits between 7 Sept 2007 and 1 Feb 2008), Powder Canyon (nine visits between 13 Sept 2007 and 8 Feb 2008), and Tonner Canyon (nine visits between 12 Oct 2007 and 15 Feb 2008). Protocol surveys are not being conducted at the Montebello Hills in 2009 because a known FWS-monitored population exists there. Protocol surveys being conducted in 2009 include: On the west side of the 605 freeway near the Santa Fe Dam Recreation Area (Segment 7), between Arrow Highway and Lower Azusa Road (Segment 7), from Rio Hondo College to Turnbull Canyon Road (Segment 8), from Turnbull Canyon Road to Holmes Circle (Segment 8), from Colima Road east to Fullerton Road (Segment 8), and from Fullerton Road east to the City of Chino Hills (Segment 8).

2.1.3.3 Mammal Surveys

Mohave Ground Squirrel

Reconnaissance-level surveys were conducted on 17-21 and 25-28 September 2007 for habitats capable of supporting the Mohave ground squirrel in the Antelope Valley region of the proposed Project. Prior to conducting these surveys, information concerning the known distribution of the species was reviewed as described above. The American Society of Mammalogists' Mammalian Species accounts (Best 1995), and Mammals of California (Jameson and Peeters 2004) supplied additional information regarding the distribution and habitats of the ground squirrel within the proposed Project. Information was also used from Brooks and Matchett (2002) and Laudenslayer et al. (1995). Furthermore, previous survey data associated with SCE's Antelope Transmission Project, Segments 2 and 3 (2006) was compiled and reviewed. Two Mohave ground squirrels were observed during these 2006 surveys. Immediately after these observations, four Cuddeback® Digital Scouting Cameras were deployed and allowed to collect data for two weeks. No photos of Mohave ground squirrels were recorded; however, these observations were taken into account during field surveys of the proposed Project.

Mohave ground squirrel habitats (e.g., Mojave creosote scrub, Mojave mixed woody scrub, and desert saltbush scrub; Holland 1986) were identified within the proposed Project, and visual walking surveys were conducted. Special attention was given to habitats containing the following indicator plant species: Joshua tree (*Yucca brevifolia*), winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), boxthorn (*Lycium pallidum*), creosote bush (*Larrea tridentata*), and burrobrush (*Ambrosia dumosa*). Mohave ground squirrels are known to utilize habitats containing these plant species, primarily for food or shelter (Best 1995). Furthermore, areas of suitable habitat adjacent to the proposed Project were examined because Mohave ground squirrels may increase their home ranges significantly during different years due to varying food availability (Harris and Leitner 2004). The existence and extent of burrows and observations of the sympatric white-tailed antelope squirrel (*Ammospermophilus leucurus*, CDFG 2007) were noted in these areas.

Special-Status Bat Species

Reconnaissance-level surveys of habitats capable of supporting roosts for special-status bat species were conducted on 17-21 and 25-28 September 2007 and 14-15 July, 2008. Prior to conducting these surveys, information concerning the known distribution of special-status bat species within the proposed Project was collected from several sources and reviewed, including the CNDDDB (2007), the University of California Berkeley Museum of Vertebrate Zoology (MVZ) collections database, and the *Angeles National Forest Atlas of 7.5' Topographic Maps* (for locations of active and abandoned mines; USDA 2005). Additional information on habitat distribution was obtained from CDFG's *California's Wildlife, Volume III: Mammals* (Zeiner et al. 1990), American Society of Mammalogists' *Mammalian Species* (see specific accounts for references), *The Smithsonian Book of North American Mammals* (Wilson and Ruff 1999), *A Synopsis of the Bats of California* (Grinnell 1918), and *Mammals of California* (Jameson and Peeters 2004). Furthermore, aerial photographs, vegetation maps, and data provided in SCE's "Road Story" were reviewed, and areas of potential roosting habitat were identified.

Field surveys were conducted at approximately 87 locations throughout the proposed Project based on the background review described above. Habitats capable of supporting roosts were evaluated in the field by searching for structures, including cavities, crevices, and cracks in trees, fractured rocks (including caves and mines), cliffs, and human structures (buildings, bridges, and dams). Based on the habitat assessment, 10 sites were re-surveyed from 25-28 September 2007 and 14 July 2008 using acoustical Anabat II ultrasonic bat detectors connected to a Z-Caim recorder (Titley Electronics, Ballina, N.S.W. Australia) (Table 2-2). The detectors are designed to transform ultrasonic bat vocalizations into frequencies that can be heard by the unaided human ear and stored for analysis. Anabat acoustical detectors can be highly effective at identifying bat species present within a specific area and are effective for supplementing mist net survey data (O'Farrell and Gannon 1999). Each detector and recorder was enclosed inside a waterproof steel box with the detector transducer (microphone) aimed through a protective PVC pipe protruding through the box. The entire unit was angled upward at approximately 45° towards the direction of the potential roosting structure in order to maximize the amount of air space that could potentially receive bat echolocations. Recorded vocalizations were analyzed using a Zero-Crossing Interface Module (ZCAIM) and Anabat 6 (version 5.7) and Analook (version 4.8) processing software (Titley Electronics, Ballina, N.S.W., Australia). The software transforms recorded vocalizations into a sonogram display, shown as a function of frequency and time. Sonograms and call characteristics of known species were used to identify bat vocalizations that were recorded within the proposed Project. At each of these sites, potential roosting structures were described and mapped utilizing GIS-based tools.

Date	Segment	Location in relation to proposed Project*	Nearest Tower Number	Habitat	Potential Roosting Structure
9/25	10	0.6 mi East	35	Creosote Bush Scrub and Joshua Tree Woodland	Joshua tree
9/25	10	0.7 mi East	36	Creosote Bush Scrub and Joshua Tree Woodland	Joshua tree
9/25	10	0.25 mi West	41, 42	Creosote Bush Scrub and Joshua Tree Woodland	Joshua tree
9/26	8	On site	64	Coast Live Oak Woodland	Tree cavity
9/26	8	On site	65	Coast Live Oak Woodland	Tree cavity
9/26	8	On site	71	Coast Live Oak Woodland	Tree cavity

Table 2-2. Locations and dates of special-status bat sampling using Anabat detectors for the Tehachapi Renewable Transmission Line Project (2007).

Date	Segment	Location in relation to proposed Project*	Nearest Tower Number	Habitat	Potential Roosting Structure
9/26	7	On site [†]	11, 12	Non-native Woodland	Tree cavity
9/27	6	On site	69	Coulter Pine Forest	Tree cavity
9/27	6	500 ft Northeast	69	Southern Alder and Willow Riparian Forest	Tree cavity or foliage
9/27	6	600 ft. Northeast	70	Coulter Pine Forest and Southern Mixed Chaparral	Tree cavity or foliage

* Detectors placed 'on site' were within the footprint of the transmission line tower or pulling site.

[†] Location monitored for only the first two hours after dusk

In addition, one site near Structures 69 and 70 of Segment 6, in the vicinity of Big Tujunga Canyon Creek of ANF was selected for mist net sampling. This site was selected because it provided the most suitable roosting habitat (mature riparian forest with an open understory) identified within the proposed Project. Two mist nets 39.4 feet by 8.2 feet were set up approximately 100 feet apart over Big Tujunga Creek. These nets were continuously monitored for a 3-hour period following sunset with Anabat detectors placed nearby. Both nets were located in mature white alder (*Alnus rhombifolia*) and arroyo willow (*Salix lasiolepis*) forest with a closed canopy (>75%) and an abundant understory of bracken fern (*Pteridium aquilinum*), narrow-leaf willow (*Salix exigua*), and deergrass (*Muhlenbergia rigens*). A larger mist net 50 feet by 20 feet was placed between an alder and willow riparian forest and the neighboring Coulter pine (*Pinus coulteri*) and canyon live oak (*Quercus chrysolepis*) forest. The canopy closure at this location was approximately 40 percent and the understory included narrow-leaf willow, bracken fern, California coffeeberry (*Rhamnus californica*), California sagebrush (*Artemisia californica*), and chaparral yucca (*Yucca whipplei*). The larger mist net was continuously monitored for a 3-hour period following sunset, during the peak activity of foraging bats (Milne et al., 2004).

Other Special-status Mammals

Reconnaissance-level surveys were conducted on 17-21 and 25-28 September 2007 for habitats capable of supporting all other special-status mammals species including the northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Tehachapi pocket mouse (*Perognathus alticolus inexpectatus*), southern grasshopper mouse (*Onychomys torridus ramona*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), San Diego blacktailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*). A background review of the ecology, habitat requirements, and recent distributions of listed and special-status small mammals potentially occurring within the proposed Project was conducted prior to field surveys. Sources of information reviewed included CDFG's Natural Diversity Database (CNDDB, 2007), existing vegetation and USGS topographic maps, aerial photographs, and species-specific information included in SCE's PEA (2007). Furthermore, sources such as The Mammals of North America (Reid, 2006), Mammals of California (Jameson and Peeters, 2004), and the American Society of Mammalogists' Mammalian Species Accounts (various citations) were reviewed.

Following the background review described above, specific areas were identified for investigation during site visits. Special attention was given to areas in which the vegetation and soil structure was conducive to habitation by small mammals. Visual transect surveys were conducted in these areas, all burrows were examined, a rough estimation of burrow counts was conducted, and observations were recorded.

2.1.3.4 Riparian Conservation Area Surveys

In general, RCAs include areas containing both aquatic and terrestrial components, and serve as the interface between land and water. Therefore, any areas having important biological and/or hydrologic riparian characteristics within the project area were identified as RCAs using several methods of determination as follows: 1) use of aerial photography and preliminary field work to examine basic hydrology; 2) application of the USDA Forest Service Five-Step Project Screening Process for Riparian Conservation Areas; and 3) application of a series of ground-truthing methods. Following RCA determination in the field, GIS was used to delineate and illustrate RCA locations. Buffers were applied around each RCA according to the Five-Step Screening Process for RCAs. Finally, each RCA was revisited and evaluated in the field for potential impacts from the proposed Project and a determination was made regarding the need for a FS Land Management Plan amendment.

Please see the TRTP RCA Report (Appendix M) for further details and analysis of RCAs in the project area.

Aerial photography and preliminary field work:

Aerial photographs were used to examine basic hydrology throughout the forest along the access roads that would be potentially impacted by the Project. In conjunction with analysis of aerial photographs, all potential access and spur roads were driven or walked in the field to better identify which road crossings would qualify as RCAs. During this process, some stream crossings that were high ephemeral drainages having no riparian vegetation were determined not to be RCAs and were eliminated. In general, if a road crossed a drainage that contained riparian vegetation and/or showed evidence of at least occasional water flow, such as scour lines, banks, or rills, the crossing was determined to be an RCA.

A GPS location was recorded for each crossing point that was determined to be an RCA using a Trimble Geo XT GPS unit. The drainage was then determined to be perennial, intermittent, or ephemeral at each crossing. This determination was based on the US Geological Survey's National Hydrography Dataset (NHD), which was used as a general guide, and verified on the ground by the presence or evidence (scouring and hydrophilic vegetation) of recent flow. Soil type at each crossing was also noted. A preliminary map of RCA locations was generated from the GPS coordinates collected in the field. In addition, all points where the proposed transmission line crossed NHD-mapped drainages were identified in GIS and added to the RCA map. These points were not ground-truthed as they were generally inaccessible due to steep terrain and other obstacles, and the proposed Project would span those drainages. Therefore, impacts to the RCAs crossed by the transmission line route are expected to be less than significant.

Five-Step Project Screening Process for Riparian Conservation Areas:

A five-step process was developed by the FS to standardize how and when to define a location as being a Riparian Conservation Area and impose protective measures to these areas that may be impacted by projects. In Step 1 of the Process, the RCA for perennial streams is identified as 328 feet (100 meters) on each side of the stream. In Step 2, if sensitive biological resources are identified this 100-meter width can be expanded based on the natural history and biological requirements of the particular species in the area. In Step 3 the project must be evaluated against the riparian and aquatic desired conditions as well as recovery plans for federally listed riparian species to determine if the project impacts are either neutral or will move the area closer towards the desired conditions. At this point, the project may move forward to Step 4 (if impacts are neutral or beneficial) or be denied, modified, or require the completion of a Land Management Plan amendment (if impacts are adverse). If the project moves to Step 4, the project is screened against the Land

Management Plan riparian management objectives to ensure the project incorporates one or more of the listed strategies for maintenance or improvement of the site. A major component of this is to evaluate physical and biological characteristics of the stream, and to evaluate the ability of the existing environment to provide the necessary habitat for the species expected to be present. In Step 5, the project references the Forest Service Handbook for specific guidance regarding the management tactics to apply when conducting activities within RCAs.

Ground-truthing and data collection:

RCAs that were identified during preliminary field and aerial photography investigations were revisited in August 2008 to collect detailed data. The potential access and spur roads were driven and walked by Aspen biologists. At each RCA, the road crossing and area within the buffer established by the Five-Step Screening Process for RCAs were assessed for various habitat characteristics. Specific elements evaluated included verification of stream type (ephemeral, intermittent, perennial), general habitat communities and plant species present in and adjacent to the drainage, and evidence (habitat or sign) of special-status species. The average road width at each RCA was measured and recorded. The habitat communities present in both the drainage and adjacent upland habitat were characterized, dominant plant species were recorded, and exotic plant species (e.g., arundo, bromes) were noted. Also recorded were the number, type, and categorized size (DBH) of trees within five feet of the road which could be subject to trimming and/or removal during road widening and improvement. Each RCA was photographed and visually assessed for potential impacts to riparian vegetation and mature trees.

Geographic Information Systems Data:

GIS mapping was used to clearly identify and illustrate access and spur roads, stream crossings, basic hydrology, and RCA boundaries. Roads were re-digitized because the previously existing data were inaccurate at the scale at which we were evaluating the habitat. Buffer zones were added to the GIS layer in accordance with the Five-Step Process and any special-status species present. Specifically, a buffer zone of one mile was applied to several areas where arroyo toads are known to occur.

Amendment locations:

After data collection and delineation of RCAs, it was then determined which RCAs would be impacted such that they would require an amendment to the Forest Service Land Management Plan. RCAs were determined to require a Plan amendment if project activities would result in one or more of the following:

- 1) Removal and/or trimming of riparian vegetation. For example, in many areas the road would need to be widened to allow construction equipment to safely navigate through. Road widening activities in some cases would require the removal and cutting of riparian vegetation.
- 2) Removal and/or trimming of more than 20 percent of the canopy of mature trees. Road widening activities would often require the removal and/or trimming of some mature trees to allow access for construction vehicles and equipment.
- 3) Disruption or diversion of flowing water or the disruption of ponded water. In some RCAs water flows or ponds across the road either perennially or intermittently. Driving through water can increase sediment loads flowing downstream and could potentially change the water chemistry, making it unsuitable for species that rely on that water source.

- 4) The RCA is within the extended buffer established for a federally listed species. For example, a one-mile buffer was established around all drainages known to support arroyo toad. All RCAs within those one-mile buffers were determined to require Plan amendments.

See the TRTP RCA Report for further details.

2.1.4 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, this is the only habitat type that they utilize such as Southwestern willow flycatcher or Santa Ana sucker. 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,” but towards suitable riparian or upland wintering habitat (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).

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, 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).

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 2-2). 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 the Mohave ground squirrel. Some of the listed species that may occur in the project area include the least Bell's vireo, Swainson's hawk, Mohave ground squirrel, California red-legged frog, desert tortoise, and rare plants such as the San Fernando Valley spineflower, alkali Mariposa lily, and short-joint beavertail cactus.

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 2-3). 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 (*Castilleja gleasonii*), California spotted owl (*Strix occidentalis occidentalis*), Santa Ana speckled dace (*Rhinichthys osculus*), pallid bat (*Antrozous pallidus*), and San Bernardino mountain kingsnake (*Lampropeltis zonata parvirubra*). It is possible to find California condor (*Gymnogyps californianus*), eagles, and other raptor species.

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 2-4). 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.

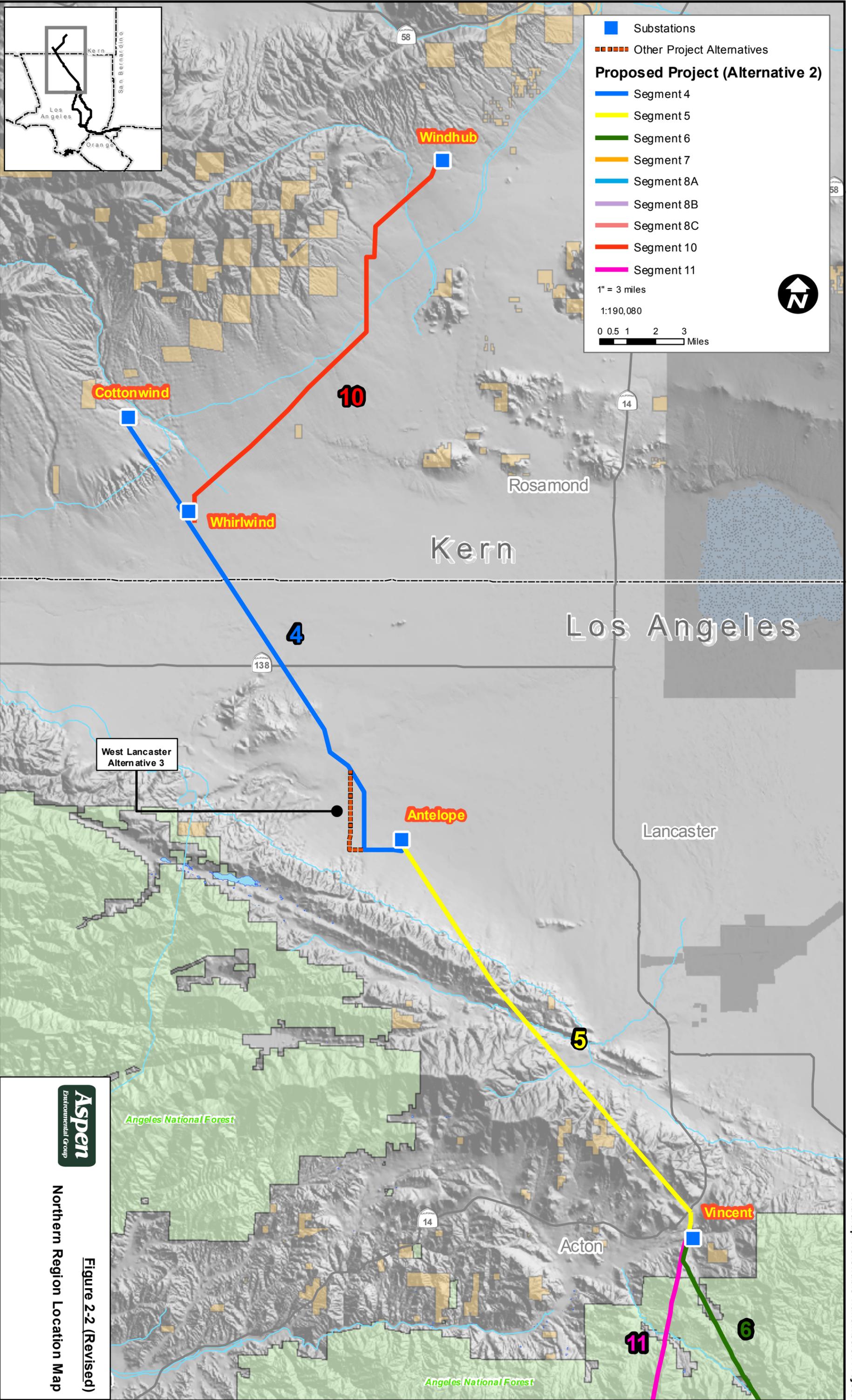
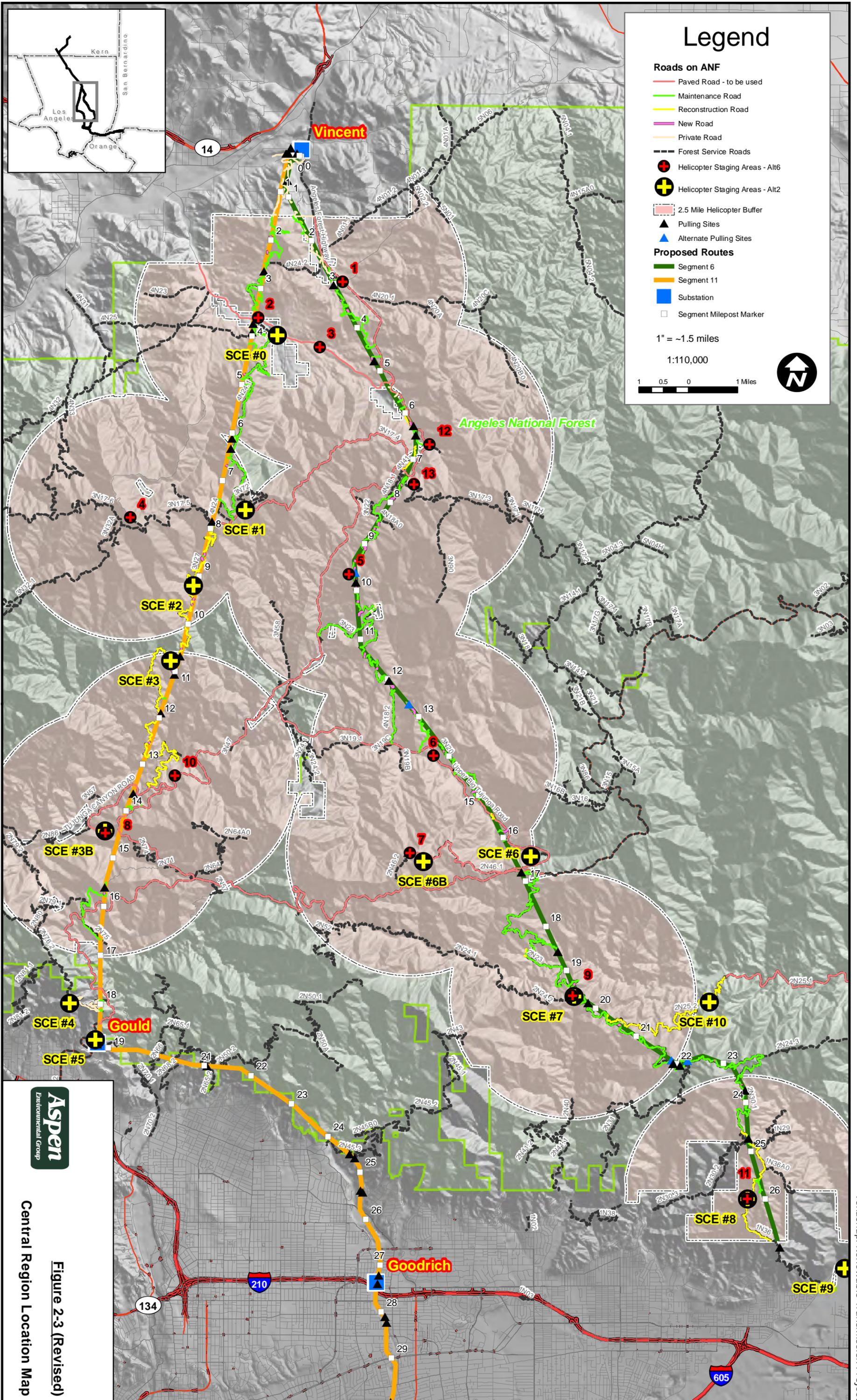


Figure 2-2 (Revised)



Legend

Roads on ANF

- Paved Road - to be used
- Maintenance Road
- Reconstruction Road
- New Road
- Private Road
- - - Forest Service Roads

- + Helicopter Staging Areas - Alt6
- + Helicopter Staging Areas - Alt2

2.5 Mile Helicopter Buffer

- ▲ Pulling Sites
- ▲ Alternate Pulling Sites

Proposed Routes

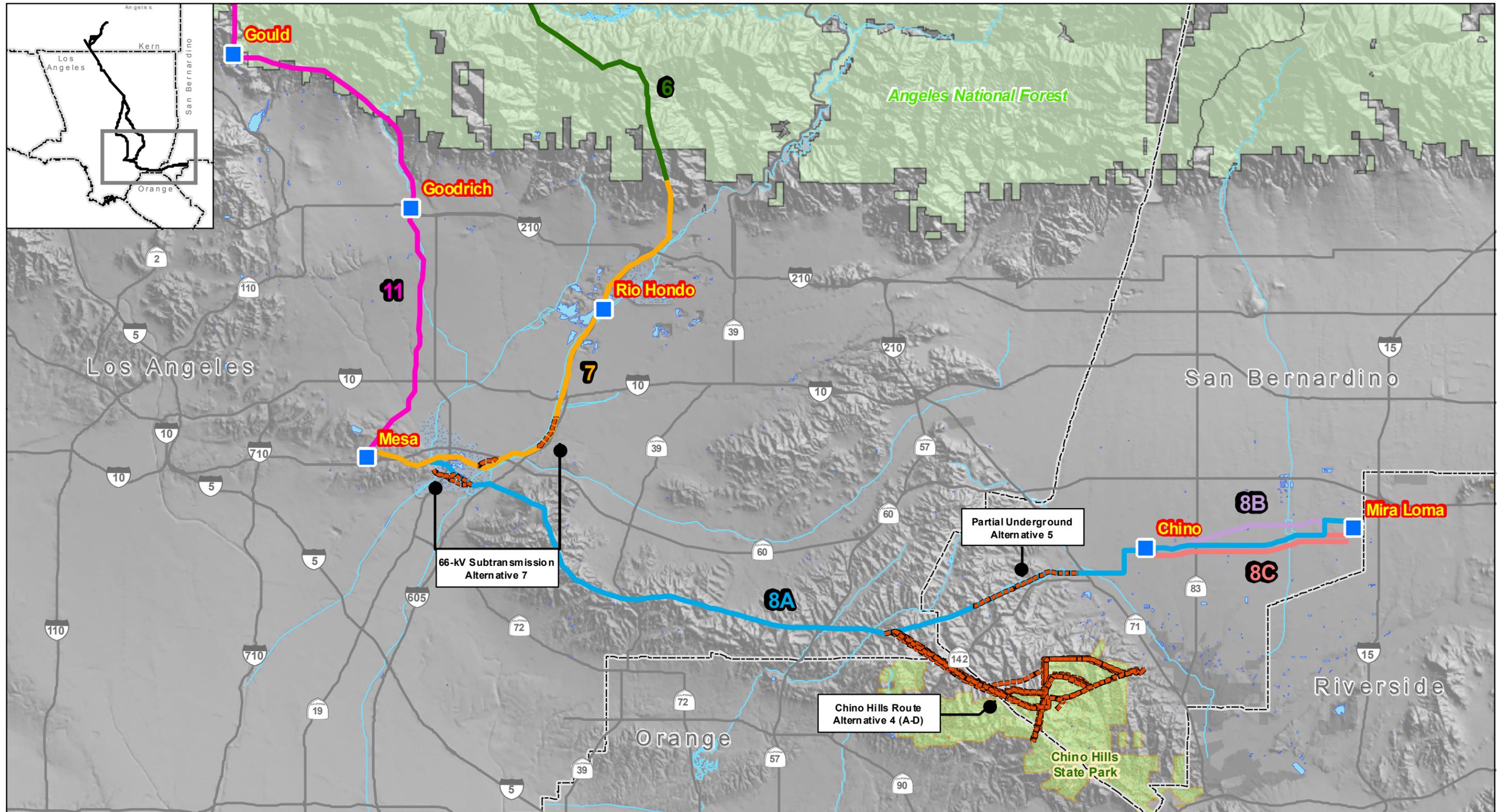
- Segment 6
- Segment 11
- Substation
- Segment Milepost Marker

1" = ~1.5 miles

1:110,000



Figure 2-3 (Revised)
Central Region Location Map



1" = 3 miles
1:190,080



Proposed Project (Alternative 2)

- Segment 6
- Segment 7
- Segment 8A
- Segment 8B
- Segment 8C
- Segment 11
- Substations
- - - Other Project Alternatives

Figure 2-4 (Revised)
Southern Region Location Map

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 hawks, burrowing owls, least Bell's vireos, and peregrine falcons.

2.3 Alternative 2: SCE's Proposed Project

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.

Geography, Climate, and Hydrology

The Northern Region extends from the northern boundary of the ANF, 1.2 miles south of the Vincent substation, to the proposed Windhub substation at Oak Creek Road, six miles west of the city of Mojave. The region crosses portions of the cities of Palmdale and Lancaster and the northern slope of the San Gabriel Mountains to the south, and the foothills of the Tehachapi Mountains to the north and northwest. The Northern Region ranges in elevation from approximately 2,580 feet in the center of the Antelope Valley, to approximately 3,500 feet at the northern terminus (Segment 10), and 3,850 feet at the southern terminus (Segment 11). This region receives an average of 4 to 9 inches of annual rainfall, and annual temperatures average 62°F. The Antelope Valley is an internally-drained basin bordered by the San Gabriel Mountains to the south and Tehachapi Mountains to the west. Surface flows from these mountainous watersheds drain into Rosamond Lake as sheet flow or within natural and artificial channels. Four main drainages appear on USGS quadrangles within the Northern Region of the proposed Project: the Santa Clara River, Amargosa Creek, Oak Creek, and Cottonwood Creek.

Vegetation

The most common vegetation type in the Northern Region of the proposed Project is Mojave Creosote Brush Scrub (Table 2-4). 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, and primary succession species) dominates disturbed areas.

State-protected or regulated 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 the 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 the 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 bobcats (*Lynx rufus*), black-tailed jackrabbits (*Lepus californicus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), and desert cottontails (*Sylvilagus audubonii*). Common mammal species that would be expected to occur in the Northern Region include coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), and striped skunks (*Mephitis mephitis*). The Northern Region provides excellent habitat for a variety of reptiles. Reptile species observed during surveys or expected to occur include the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), desert spiny lizard (*S. magister*), desert iguana (*Dipsosaurus dorsalis*), and western rattlesnake (*Crotalus viridis*). Chuckwallas (*Sauromalus ater*), red racers (*Coluber constrictor*), common kingsnakes (*Lampropeltis getula*), gopher snakes (*Pituophis catenifer*), and western whiptail lizards (*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 this report.

Soils

Soil characterization is an important component of any analysis for biological resources because soils often play a pivotal role in the habitat requirements of a variety of special-status plant and wildlife species. It is not uncommon for soil composition and/or texture to define exclusive habitat qualities for many of these species. Several special-status plants require unique soil characteristics in order to set seed, germinate, and grow. For example, the alkali mariposa lily (CNPS List 1B.2 and FS Sensitive) is strongly associated with areas consisting of alkaline soils and the absence of these soils limits the occurrence of this plant variety in other areas. Additionally, many special-status reptiles and mammals require suitable soil qualities, such as texture and friability, to construct and maintain adequate burrows.

A total of 70 soil phases were identified as underlying the proposed Project within 33 soil series (Table 2-3). Soils that underlie this region are predominantly sandy loams and sand, which are well to excessively draining.

Seven soil series are listed as containing alkaline soils: Arizo, Cajon, Castaic-Balcom, Garlock, Ransburg, Rosamond, and Sunrise. Several special-status plant species, including the alkali mariposa lily, are limited to specific soil types.

Soil Series	Series Soil pH	Drainage Class
Adelanto	neutral	well-drained
Agua Dulce	slightly acid to medium acid	well-drained
Amargosa	neutral	well-drained
Anaverde	neutral	well-drained
Arizo	neutral to strongly alkaline	excessively drained
Cajon	mild/moderately alkaline	excessively drained
Castaic	slightly acid	well-drained
Castaic-Balcom	slightly acid-moderately alkaline	well-drained
Chino	neutral	poorly drained
Dune land	neutral	excessively drained
Garlock	moderately alkaline	well-drained
Gaviota	neutral	well-drained
Gazos	medium acid to neutral	well-drained
Godde	slightly acid	excessively drained
Gravel Pits	N/A	excessively drained
Greenfield	neutral	well-drained
Hanford	slightly acid	well-drained
Hesperia	slightly acid	well-drained
Las Posas	slightly acid	well-drained
Las Posas-Toomes	moderate acid to neutral	well-drained
Oak Glen	moderate acid to neutral	well-drained
Pajuela-Whitewolf association	neutral	excessively drained
Pismo-Trigo	strongly to slightly acid	somewhat excessively drained
Ramona	moderately acid	well-drained
Randsburg	moderately alkaline	well-drained
Riverwash	N/A	well-drained
Rosamond	mildly alkaline	well-drained
Rough, broken land	neutral	well-drained
Sunrise	moderately alkaline	well-drained
Terrace escarpments	neutral	well-drained
Vista	neutral	well-drained
Water	N/A	N/A
Wyman	slightly acid to neutral	well-drained

2.3.1.1 Vegetation Types

Eighteen vegetation types were mapped within the Northern Region of the proposed Project alignment. Table 2-4 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 and vegetation maps are provided in Appendix G.

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%

Table 2-4. Vegetation Types Occurring in the Northern Region

Habitat Type	Acres	Percentage of Total Acreage
Rabbitbrush Scrub	407.93	4.48%
Mojave Mixed Woody Scrub	349.58	3.84%
Desert Bunchgrass Grassland	324.93	3.57%
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%

2.3.1.2 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 2-10 lists these species, their status, and their potential for occurrence in the Northern Region. Detailed accounts for these species are provided in Appendix E.

Special-Status Wildlife Species

Twenty-eight special-status wildlife species have the potential to occur within the Northern Region of the proposed Project. Table 2-11 lists these species, their status, and their potential for occurrence. Detailed accounts for these species are provided in Appendix J.

2.3.1.3 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 foxes, raccoons, and bobcats, 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-ranging species, such as Mohave ground squirrels, 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 the California red-legged frog, mountain plover, southwestern willow flycatcher, and Mojave 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.

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. 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 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 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 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 eventually intersects the ROW near the junction with 2N23 at Newcomb Pass, 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 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. 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. Due to steep topography, access in the area between Big Tujunga Canyon Road and Angeles Crest Highway is extremely limited. 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 FS Lands. 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 13 helicopter staging areas that would be necessary to support helicopter construction activities (Figure 2.2-83 of the EIR/EIS). Of these, two sites (SCE #2 and SCE #3) would require new roads for access. These sites average approximately four acres in size and are described in detail below. 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 and potentially oaks, and/or other trees would be necessary in order to facilitate helicopter operations at several of the sites.

SCE #0

This site is located off NFS land just south of Aliso Canyon Rd, 2.5 miles northwest of the junction with Angeles Forest Highway. The area SCE proposes for use as "Site 0" includes a disturbed upland and an adjacent slope. All or part of the upland may have been used for agriculture in the past. It now supports a mix of native and non-native species that are recolonizing since the site was last cleared. Common species are annual ragweed, one or more mustard species, and a few scattered native shrubs. The adjacent slope is below the upland and to the southwest. It covers more than ½ of the mapped site and is covered by chaparral that appears to have burned in approximately the last five years. Native vegetation on the slope includes chamise, bush poppy, yerba santa, and other native shrubs. There is potential habitat on this site for several special-status plants, including *Androsace elongata* ssp. *acuta*, *Berberis nevini*, *Calystegia peirsonii*, *Canbya candida*, *Castilleja gleasonii*, *Opuntia basilaris* var. *brachyclada*, *Oxytheca caryophylloides*, *Phacelia exilis*, and *Syntrichopappus lemmonii*.

SCE #1

This site is located on NFS lands north of ANF Road 3N17 and east of the junction with ANF Road 4N24. The mapped area includes mature chaparral, a stand of rabbitbrush scrub, and a disturbed roadside turnout. Chaparral occupies the western half of the site and is dominated by manzanita and oaks. Rabbitbrush scrub occupies the eastern half of the site and is dominated by rabbitbrush and yerba santa. The disturbed area is forty feet square, at the junction of ANF Road 4N24. Manzanitas present on this site could possibly be San Gabriel Manzanita (CNPS List 1B.2) but could not be positively identified at the time of year surveys were conducted (November 2008). There is no potential for rare species in the turnout area, but the remainder has potential to provide habitat for several special-status plants, including *Arctostaphylos gabrielensis*, *Calochortus plummerae*, *Castilleja gleasonii*, *Hulsea vestita* ssp. *gabrielensis*, *Opuntia basilaris* var. *brachyclada*, *Oxytheca caryophylloides*, *Phacelia exilis*, and *Syntrichopappus lemmonii*.

SCE #2

This site is located on NFS lands on ANF Road 3N27, 1.3 miles south of the junction with ANF Road 3N17. The site is situated on a south-facing ridgeline, and the road crosses it along the contours of the east and west-facing slopes. Except for the road, the site is covered by chaparral, dominated by oaks, manzanitas, and chamise. Steep slopes are located both above and below the road. A new road would need to be built to allow access to the site. There is potential habitat for several special-status plants, including *Arctostaphylos gabrieliensis*, *Calochortus plummerae*, *Castilleja gleasonii*, *Hulsea vestita* ssp. *gabrieliensis*, *Opuntia basilaris* var. *brachyclada*, *Oxytheca caryophylloides*, *Phacelia exilis*, and *Syntrichopappus lemmonii*.

SCE #3

This site is located on NFS lands on ANF Road 3N27, about 2.3 air miles south-southwest of the junction with ANF Road 3N17. The site is situated on a ridgeline above the road, which wraps around the slope just below. Vegetation is chaparral as described above for SCE #2. A new road would need to be built to allow access to the site. This site is very steep and would require extensive grading for use as a helicopter pad. There is potential habitat for several special-status plants, including *Arctostaphylos gabrieliensis*, *Calochortus plummerae*, *Castilleja gleasonii*, *Hulsea vestita* ssp. *gabrieliensis*, *Opuntia basilaris* var. *brachyclada*, *Oxytheca caryophylloides*, *Phacelia exilis*, and *Syntrichopappus lemmonii*.

SCE #3B

This site consists completely of barren/developed areas. Observed species include planted Coulter pine, Russian thistle (*Salsola tragus*), annual bur-sage (*Ambrosia acanthicarpa*), tree tobacco (*Nicotiana glauca*), and non-native grasses. The margins of the adjacent undisturbed natural habitat were also surveyed. A stand of mixed chaparral dominated by chamise, chaparral yucca, and hoary leaf ceanothus occurs immediately north of the site. Scrub oak chaparral dominated by scrub oak (*Q. berberidifolia*), interior live oak, chamise, big berry manzanita, and hoary leaf ceanothus occurs to the east of the site. Special-status plant species were not observed. Bird species observed on the site include common raven and California towhee.

SCE #4

This site is located off of NFS lands on ANF Road 2N76, about 0.75 air miles west of Angeles Crest Highway. The site is in use as an apiary (dozens of active hives noted within a fenced area). The entire site is covered by perennial grassland (dominated by *Elymus* sp.) with a few scattered native shrubs including elderberry and oaks. The surrounding slopes are covered with mixed chaparral. The site appears to have been scraped in the past and likely seeded with grasses. *Lepechinia fragrans* is present (CNPS List 4.2 and a FS Sensitive species) and there is potential habitat for several other special-status plants, including *Androsace elongata* ssp. *acuta*, *Calochortus plummerae*, *Chorizanthe parryi* var. *parryi*, *Horkelia cuneata* ssp. *puberula*, *Juglans californica*, and *Linanthus orcutti*.

SCE #5

This site is located off of NFS lands east of Angeles Crest Highway at the SCE Gould substation. The majority of the site is chaparral (dominated by oaks, chamise, and laurel sumac). There is a large cleared area near the center of the site that has only sparse, weedy plant cover and there is a dense stand of Spanish broom at the roadside. There is no potential for rare species within the disturbed portion of the site. Most of the site, dominated by mixed chaparral, is potential habitat for several special-status plants, including *Androsace*

elongata ssp. *acuta*, *Calochortus plummerae*, *Chorizanthe parryi* var. *parryi*, *Horkelia cuneata* ssp. *puberula*, *Juglans californica*, *Lepechinia fragrans*, and *Linanthus orcutti*.

SCE #6

This site is located on NFS land on an unnamed road behind the Shortcut Fire Station near the upper end of Upper Big Tujunga Road, roughly 0.6 air miles northeast of the junction with Angeles Crest Highway. Roughly half of the site is developed with two small reservoirs, a small building, a large open storage area and the access road. The remainder of the site, southeast of the developed area, is covered by chaparral (dominated by manzanita, oaks, and chamise). There are also scattered Coulter pines throughout the site. Much of the site has apparently been thinned for brush clearance in the past year, but much of the chaparral is still dense. No rare species were observed but there is potential habitat for several special-status plants, including *Arctostaphylos gabrielensis*, *Calochortus plummerae*, *Castilleja gleasonii*, *Hulsea vestita* ssp. *gabrielensis*, *Linanthus concinnus*, *Lupinus peirsonii*, *Opuntia basilaris* var. *brachyclada*, *Oxytheca caryophylloides*, *Phacelia exilis*, and *Syntrichopappus lemmonii*.

SCE #6B

Habitats on this site include developed areas and yellow pine forest however barren/developed habitat dominates the site and includes areas of native plants mixed with non-native ornamental plantings. Because of the high degree of disturbance and fragmentation, portions of the site are not likely to support special-status plants. Some of the plants observed include Coulter pine, Jeffrey pine (*P. jeffreyi*), incense cedar, American sweetgum (*Liquidambar styraciflua*), and black locust (*Robinia pseudoacacia*).

Dominant canopy species in the yellow pine forest include ponderosa pine (*P. ponderosa*) and Jeffrey pine. Associates include incense cedar, big cone Douglas fir, Coulter pine, and canyon live oak. Canopy closure ranges from 50 to 70 percent. The shrub layer is relatively sparse, possibly due to fuel reduction, and contains deerbrush (*C. integerrimus*) and California coffeeberry (*Rhamnus californica*). The herbaceous layer is dominated by a mix of annual and perennial grasses and forbs, including cheat grass, nude buckwheat, narrow-leaved bedstraw (*Galium angustifolium*), grape soda lupine (*L. excubitus*), spearleaf agoseris (*Agoseris retrorsa*), and sulphur buckwheat. In addition, an unknown mariposa lily was observed within this habitat. The species had already gone to seed and was unidentifiable at the time of the survey. Habitat for other special-status mariposa lilies is also present within this habitat type.

The site is on the top of a ridge on Barley Flats Road, and there is potential California spotted owl habitat on both sides of the ridge, particularly on the north side. A spotted owl PAC has been delineated west of the helipad, between the helipad and the tower alignment.

Buildings and a helipad are present on the site. Some of the buildings on the site serve as occasional night roosts for bats, but no day roosts were located. An “anabat” recording device was placed near water collected in a cement lined water treatment structure located near the center of the site on the north side of the road on the night of 14 July 2008 and recorded both California myotis (*Myotis californicus*) and another species of myotis differentiated by a higher frequency call (approximately 40 megahertz vs. 50 megahertz for California myotis). The “anabat” also recorded a Townsend’s big-eared bat (*Corynorhinus townsendii pallascens*), a California Species of Special Concern and FS Sensitive species.

Bird species observed on the site during the survey include the Cooper’s hawk (*Accipiter cooperii*), mountain quail (*Oreortyx pictus*), Anna’s hummingbird, rufous hummingbird (*Selasphorus rufus*), Allen’s hummingbird (*Selasphorus sasin*), acorn woodpecker (*Melanerpes formicivorus*), western wood-peewee, warbling vireo

(*Vireo gilvus*), common raven, American robin (*Turdus migratorius*), mountain chickadee, white-breasted nuthatch (*Sitta carolinensis*), black-throated gray warbler (*Dendroica nigrescens*), western tanager, spotted towhee, dark-eyed junco, black-headed grosbeak, purple finch (*Carpodacus purpureus*), house finch, lesser goldfinch, and Lawrence's goldfinch (*Carduelis lawrencei*).

Mammal species observed on the site include Merriam's chipmunk (*Tamias merriami*) and the western gray squirrel (*Sciurus griseus*).

SCE #7

SCE #7 is located at Newcomb's pass just north of ANF Road 2N24, west of the junction with 2N23. It is shown as a helicopter pad on the ANF Recreation Map (1995). The site includes two vegetated open areas, both surrounded by native vegetation. The open areas support a mix of native and non-native species that are recolonizing the site since it was last cleared. Common species include exotics such as Spanish broom, two species of rockrose (*Cistus* spp.), several species of ceanothus, and several annual grasses and forbes. Other species observed include big-cone Douglas fir, tarragon, mulefat, California thistle (*Cirsium occidentale* var. *californicum*), Parish's goldenbush (*Ericameria parishii*), narrow-leaved filago (*Filago gallica*), and golden aster (*Heterotheca sessiliflora*). The northernmost of the two cleared areas includes a wetland area covered with a dense stand of spikesedge (*Eleocharis* sp.) and several other obligate wetland species. Native vegetation surrounding these cleared areas is dominated by canyon live oak forest on the north-facing slopes and chaparral (dominated by interior live oak (*Q. wislizeni*), chamise, silktassel (*Garrya* sp.), ceanothus, and other native shrubs are present on the more exposed ridgetop and south-facing slopes.

SCE #7 and the access roads could provide habitat for several special-status plants, including San Gabriel Mountain manzanita, Plummer's mariposa lily, San Gabriel Mountains dudleya, California satintail (*Imperata brevifolia*), southern California black walnut (*Juglans californica*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), Humboldt lily (*Lilium humboldtii*), Hall's monardella (*Monardella macrantha* ssp. *Hallii*), rock monardella (*Monardella viridis* ssp. *Saxicola*), San Gabriel oak (*Quercus durata* var. *gabrielensis*), or Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*). Some of these species including San Gabriel Manzanita and California black walnut would have been observed during the surveys. Suitable habitat for California spotted owl occurs adjacent to the site.

SCE #8

This site is located on NFS land adjacent to ANF Road 1N36, about 0.5 air miles SW of Mount Bliss. Roughly half of the site is disturbed due to the road, a dirt turnout, and a water tower. The remaining half is covered by native vegetation. A knoll near the center is covered by coastal sage scrub (dominated by California buckwheat and black sage), surrounded on all sides by chaparral (dominated by manzanita, ceanothus, and laurel sumac). There is a woodland of California bay laurel and canyon live oak immediately north of the site. *Quercus durata* var. *gabrielensis* (CNPS List 4.2) is present on the site. There is no potential for rare species in the disturbed portion of the site, but the areas covered by coastal sage scrub and chaparral are potential habitat for several special-status plants, including *Androsace elongata* ssp. *acuta*, *Astragalus brauntonii*, *Calochortus clavatus* var. *gracilis*, *Calochortus plummerae*, *Chorizanthe parryi* var. *parryi*, *Dudleya cymosa* ssp. *crebrifolia*, *Dudleya densiflora*, *Galium grande*, *Horkelia cuneata* ssp. *puberula*, *Juglans californica*, *Lepechinia fragrans*, and *Thelypteris puberula* var. *sonorensis*.

SCE #9

This site is located off of NFS lands at the end of Fish Canyon Road near the mouth of Fish Canyon. It is on an abandoned gun club shooting range. The site is entirely disturbed and is covered almost entirely by concrete. There is a small area of bare soils where the actual firing range was that is sparsely covered by non-native *Pennisetum* and a few native weedy annual plants. There is no potential for rare plants on this site.

SCE #10

This site is located on NFS lands just southwest of the Cogswell Reservoir dam on ANF Road 2N25. The site is an open graded area at the top of a fill slope that was apparently created by placing sediment from the reservoir and into a side canyon. The site consists of a steep fill slope accessed via a paved, switchbacking road from top to bottom and, at the top, two partially-connected areas of relatively gentle topography. The entire fill slope is surrounded by native vegetation. The upper surfaces of the fill slope are covered by a variety of native and non-native species. The site was apparently seeded with California buckwheat and perhaps other species for reclamation or erosion control. It is largely dominated by California buckwheat (*Eriogonum fasciculatum*) and various non-native annual grasses and herbs, including rattail fescue (*Vulpia microstachys*), brome grasses (*Bromus* spp.), wild oats (*Avena barbata*), summer mustard (*Brassica geniculata*) and others. California buckwheat cover is relatively dense in some areas on the fill surface (ca. 50% cover); but elsewhere the surface is covered by dirt roads, current or former equipment storage areas, or patches of weeds. The majority of the fill slope below the upper surfaces is covered by a similar mix of reseeded buckwheat scrub and non-native grasses and herbs.

Dense stands of native vegetation surround the site. These include chaparral, canyon live oak woodland, and undisturbed California buckwheat scrub. The chaparral is dominated or co-dominated by several large shrubs, including San Gabriel oak (*Quercus durata* var. *gabrielensis*), bigberry manzanita (*Arctostaphylos glauca*), thicketleaf ceanothus (*Ceanothus crassifolius*), and chamise (*Adenostoma fasciculatum*). Within the chaparral, there are scattered patches of Coulter pine (*Pinus coulteri*) on the ridgelines. Some patches of chaparral as mapped here are dominated by soft-woody shrub species including California buckwheat, black sage (*Salvia mellifera*) and yerba santa (*Eriodictyon trichocalyx*). Canyon live oak woodland surrounding the site is dominated by canyon live oak (*Quercus chrysolepis*) with some scattered big-cone Douglas-fir (*Pseudotsuga macrocarpa*), California bay (*Umbellularia californica*), and interior live oak (*Quercus wislizeni*).

San Gabriel oak (*Quercus durata* var. *gabrielensis*) is occasional to common in mixed chaparral surrounding the fill slope. An unidentified mariposa lily (*Calochortus* sp.) was observed that did not yet have flowers but, based on elevation, habitat and late flowering date, could be Plummer's mariposa lily (*C. plummerae*). Several other special-status plants also could occur in the chaparral and oak woodland adjacent to the site, including: San Gabriel Mountains dudleya (*Dudleya densiflora*), San Gabriel River dudleya (*D. cymosa* subsp. *crebiflora*), California satintail (*Imperata brevifolia*), southern California black walnut (*Juglans californica*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), ocellated Humboldt lily (*Lilium humboldtii* subsp. *ocellatum*), Hall's monardella (*Monardella macrantha* subsp. *hallii*), rock monardella (*M. viridis* subsp. *saxicola*), and Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*).

Geography, Climate, and Hydrology

The Central Region lies north of the Los Angeles Basin and south of the Vincent substation near Forest Ridge Road. Within the Central Region, elevations rise from 3,200 feet near Kentucky Springs and the northern portions of the ANF to 5,600 feet near Mount Gleason Road before descending to 1,500 feet in the southern

portion of the ANF. This region receives an average of 25 inches of annual rainfall and annual temperatures average 57°F. This region is ecologically unique in that the slopes of the Transverse Ranges that get the greatest amount of precipitation are covered with drought-tolerant scrub vegetation. This is due to the south-facing position that subjects these areas to direct sunlight. As a result, the amount of evaporation is so high, that moisture loving plants cannot survive, a phenomenon known as slope-effect (Schoenherr, 1992). Conditions become drier on the northern end of the region due to a rain-shadow effect of the San Gabriel Mountains. Rivers and creeks within these mountainous watersheds, including Big Tujunga Creek, the San Gabriel River, and Arroyo Seco, create deep canyons and washes that cross the proposed Project.

Vegetation

The majority of the proposed Project in the Central Region consists of Mixed Chaparral (Table 2-7). 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 acre) 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 the 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 coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), California ground squirrels (*S. beecheyi*), western gray squirrels (*Sciurus griseus*), and Botta's pocket gophers (*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 the Steller's jay (*Cyanocitta stelleri*), wrentit (*Chamaea fasciata*), mountain chickadee (*Poecile gambeli*), acorn woodpecker (*Melanerpes formicivorus*), and dark-eyed junco (*Junco hyemalis*). Red-tailed hawks (*Buteo jamaicensis*), common ravens (*Corvus corax*), turkey vultures (*Cathartes aura*), and Cooper's hawks (*Accipiter cooperii*) are also relatively common in the Central Region. Among the reptile species commonly occurring on the ANF are the side-

blotched lizard (*Uta stansburiana*), sagebrush lizard (*S. graciosus*), western fence lizard (*S. occidentalis*), and southern alligator lizard (*Elgaria multicarinata*). Many perennial and intermittent drainages occur on the ANF and provide suitable breeding habitat for several amphibian species, including the Pacific tree frog (*Pseudacris hypochondriaca [regilla]*), California tree frog (*P. cadaverina*), Monterey ensatina (*Ensatina eschscholzii eschscholzii*), 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 2-5 describes the MIS, their associated Management Indicators (MI), and the amount of habitat impacted by the proposed Project for each by each project alternative that occurs on the ANF. 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.

Management Indicator (MI)	Management Indicator Species (MIS)	Acres Impacted	
		Alternative 2	Alternative 6
Fragmentation	Mountain lion	272	203
Healthy Diverse Habitats	Mule deer	272	203
Aquatic Habitat	Arroyo toad	5	16
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

Soils

Soil characterization is an important component of any analysis for biological resources because soils often play a pivotal role in the habitat requirements of a variety of special-status plant and wildlife species. It is not uncommon for soil composition and/or texture to define exclusive habitat qualities for many of these species. Several special-status plants require unique soil characteristics in order to set seed, germinate, and grow. For example, the alkali mariposa lily (CNPS List 1B.2 and FS Sensitive species) is strongly associated with areas consisting of alkaline soils and the absence of these soils limits the occurrence of this plant variety in other areas. Additionally, many special-status reptiles and mammals require suitable soil qualities, such as texture and friability, to construct and maintain adequate burrows.

Thirty-six soil types have been identified within the Central Region (Table 2-6), dominated by clay loams and sandy loams that are well to excessively drained.

Soil Series	Series Soil pH	Drainage Class
Caperton-Trigo, granitic substratum-Lodo families	slightly acid to neutral	excessively drained
Chilao	medium acid to neutral	excessively drained
Chilao-Trigo, granitic substratum-Lodo families	slightly acid to neutral	excessively drained

Table 2-6. Soil Types Present in the Central Region

Soil Series	Series Soil pH	Drainage Class
Green Bluff-Hohmann families-Xerorthents	slightly acid to neutral	well-drained
Hanford	medium acid to mildly alkaline	well-drained
Mollic Haploxeralfs	N/A	N/A
Olete-Kilburn-Etsel	slightly acid to neutral	well-drained
Pacifico family-Xerorthents	moderate acid to neutral	excessively drained
Pismo family-Rock outcrop	strongly to slightly acid	excessively drained
Pismo-Chilao-Shortcut families	strongly to slightly acid	excessively drained
Pismo-Trigo, dry-Exchequer, dry	strongly to slightly acid	excessively drained
Riverwash	N/A	excessively drained
Rock outcrop-Chilao family-Haploxerolls	N/A	N/A
Stukel-Olete	slightly alkaline to neutral	well-drained
Stukel-Sur-Winthrop	medium acid to neutral	well-drained
Tollhouse-Knutsen-Stukel	medium acid to neutral	excessively drained
Tollhouse-Stukel-Wrentham	mildly alkaline to neutral	excessively drained
Trigo	slightly acid to neutral	well-drained
Trigo, granitic substratum-Exchequer families-Rock outcrop	slightly acid to neutral	well-drained
Trigo, granitic substratum-Green Bluff-Supan	slightly acid to neutral	well-drained
Trigo, granitic substratum-Modjeska	slightly acid to neutral	well-drained
Tujunga-Capistrano	moderately acid to slightly alkaline	excessively drained
Typic Xerorthents	N/A	N/A
Vista	medium acid to neutral	well-drained
Vista-Trigo	slightly acid to neutral	well-drained
Water	N/A	N/A
Xerorthents-Green Bluff family-Rock outcrop	slightly acid to neutral	N/A
Caperton-Trigo, granitic substratum-Lodo families	slightly acid to neutral	excessively drained
Chilao	medium acid to neutral	excessively drained
Chilao-Trigo, granitic substratum-Lodo families	slightly acid to neutral	excessively drained
Green Bluff-Hohmann families-Xerorthents	slightly acid to neutral	well-drained
Hanford	medium acid to mildly alkaline	well-drained
Mollic Haploxeralfs	N/A	N/A
Olete-Kilburn-Etsel	slightly acid to neutral	well-drained
Pacifico family-Xerorthents	moderate acid to neutral	excessively drained

2.3.2.1 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 2-7 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 and vegetation maps are provided in Appendix G.

Table 2-7. Vegetation Types Occurring in the Central Region

Habitat Type	Acres	Percentage of Total Acreage
Mixed Chaparral	3061.15	46.46%
Barren/Developed	729.02	11.06%
Canyon Oak Forest	543.87	8.25%
Bigcone Douglas Fir-Canyon Oak Forest	511.80	7.77%
Chamise Chaparral	369.97	5.61%
Deerweed and Chia Herbaceous Field (Recently Burned)	271.35	4.12%

Table 2-7. Vegetation Types Occurring in the Central Region

Habitat Type	Acres	Percentage of Total Acreage
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	1.51%
Mojave Pinyon Woodland	62.92	0.95%
Coastal Sage Scrub	54.23	0.82%
Southern Sycamore Alder Riparian Woodland	48.46	0.74%
Southern Coast Live Oak Riparian Forest	43.79	0.66%
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%
Reseeded – California Buckwheat Scrub	7.46	0.11%
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 (Plantation)	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%
Total	6589.41	100.00%

2.3.1.2 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 2-10 lists these species, their status, and their potential for occurrence. Detailed accounts for these species are provided in Appendix E.

Special-Status Wildlife Species

Fifty-seven special-status wildlife species have the potential to occur within the Central Region of the proposed Project. Table 2-11 lists these species, their status, and their potential for occurrence. Detailed accounts for these species are provided in Appendix J.

2.3.1.3 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 on each side, 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 big-cone 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. In addition, a mountain lion was sighted along the West Fork of the San Gabriel River, less than five miles west of Segment 6, while accessing spotted owl survey sites (Mike San Miguel, pers. comm.). 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.

The ANF constitutes important continuous open space which supports the migratory and dispersal requirements for a number of wildlife species. However, 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.

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 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.

Geography, Climate, and Hydrology

From the San Gabriel Mountains, Segments 7 and 11 continue south and southwest through numerous cities in the Los Angeles Basin, from the foothill communities of Azusa, Pasadena, and Altadena towards the city of Montebello in Los Angeles County. Segments 7 and 11 join Segment 8 near the Montebello Hills Oil Fields west of the Whittier Narrows Recreation Area. Segment 8 continues east through the Puente and Chino Hills and ends in developed and agricultural areas west of the city of Mira Loma. Most of the Southern Region occurs below 1,500 feet elevation. Urbanization of the Los Angeles metropolitan area has eliminated much of the native habitats in the region. Only the Puente Hills, Chino Hills, and portions of the Montebello Hills remain as native, relatively intact habitat. This region receives an average of 16 inches of annual rainfall, and annual temperatures average 64°F. The primary drainage feature in the Southern Region is the San Gabriel River, which parallels Segment 7 until it reaches the San Gabriel Valley.

Vegetation

The majority of the proposed Project in the Southern Region is Barren/Developed (Table 2-9). 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 or regulated 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 doves (*Zenaida macroura*), rock pigeons (*Columba livia*), American crows (*C. branchyrhyncos*), house sparrows (*Passer domesticus*), and European starlings (*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 the 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 the western fence lizard and side-blotched lizard.

Soils

Soil characterization is an important component of any analysis for biological resources because soils often play a pivotal role in the habitat requirements of a variety of special-status plant and wildlife species. It is not uncommon for soil composition and/or texture to define exclusive habitat qualities for many of these species. Several special-status plants require unique soil characteristics in order to set seed, germinate, and grow. For example, the alkali mariposa lily (CNPS List 1B.2 and FS Sensitive species) is strongly associated with areas consisting of alkaline soils and the absence of these soils limits the occurrence of this plant variety in other areas. Additionally, many special-status reptiles and mammals require suitable soil qualities, such as texture and friability, to construct and maintain adequate burrows.

A total of 73 soil phases were identified within 36 soil series. Soils identified as underlying the proposed Project (Table 2-8) are predominantly sand, sandy loam, clay loam, and gravel, which are well drained to excessively draining.

Soil Series	Series Soil pH	Drainage Class
Alo	mildly to moderately alkaline	well-drained
Altamont	slightly acid	well-drained
Anaheim	slightly acid	well-drained
Balcom	moderately alkaline	well-drained
Calleguas	moderately alkaline	well-drained
Caperton-Trigo	slightly acid	well-drained to excessively drained
Chilao-Trigo	slightly acid	excessively drained
Chino	moderately alkaline	poorly to somewhat poorly drained
Chualar	slightly alkaline	well-drained
Cieneba	slight or medium acid	excessively drained
Delhi	slightly acid	excessively drained
Fontana	slightly acid	well-drained
Garretson	slightly acid	well-drained
Gaviota	neutral	well-drained
Gorgonio	slight to medium acid	excessively drained
Grangeville	slightly alkaline	poorly drained
Hanford	slightly acid	well-drained
Hilmar	mildly to very strongly alkaline	poorly drained
Merrill	moderately alkaline	poorly drained
Mocho	moderately alkaline	well-drained
Mollic Haploxeralfs	N/A	N/A
Nacimiento	moderately alkaline	well-drained
Pits	N/A	N/A
Placentia	medium acid	well-drained
Ramona	moderately acid	well-drained
Riverwash	N/A	well-drained
Rock outcrop-Chilao family-Haploxerolls	slightly acid	excessively drained
Rough, broken, stony land	N/A	N/A
San Emigdio	moderately alkaline	well-drained
Sorrento	moderately alkaline	well-drained
Trigo	slightly acid or neutral	well-drained
Tujunga	slightly acid	excessively drained
Typic Xerorthents	N/A	N/A
Vista-Trigo	slightly acid to neutral	well-drained
Water	N/A	N/A

2.3.3.1 Vegetation Types

Twenty-three vegetation types were mapped within the Southern Region of the proposed Project. Table 2-9 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 and vegetation maps are provided in Appendix G.

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%

2.3.3.2 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 2-10 lists these species, their status, and their potential for occurrence. Detailed accounts for these species are provided in Appendix E.

Special-Status Wildlife Species

Fifty special-status wildlife species have the potential to occur within the Southern Region of the proposed Project alignment. Table 2-11 lists these species, their status, and their potential for occurrence. Detailed accounts for these species are provided in Appendix J.

2.3.3.3 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 the 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 which 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.

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.

2.3.4 Special-Status Species Occurrence Tables

Table 2-10 lists the potential for special-status plant species to occur in the proposed Project area. Table 2-11 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 recently observed on the site
- Likely:** Species or sign not observed on the site, but reasonably certain to occur on the site based on conditions, species ranges, and recent records
- Possible:** Species or sign not observed on the site, but conditions suitable for occurrence and/or an historical record exists in the vicinity
- Unlikely:** Species or sign not observed on the site, but conditions marginal for occurrence
- Absent:** Species or sign not observed on the site, outside of the known range, and conditions unsuitable for occurrence

Table 2-10. 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: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 5: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 6: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 7: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 8: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 10: Absent. Outside of the known range and elevation of the species.</p> <p>Segment 11: Absent. Outside of the known range and elevation of the species.</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: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 5: Absent. Outside of the known range of the species, no suitable habitat present.</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: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 8: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 10: Absent. Outside of the known range of the species, no suitable habitat present.</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 2-10. 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 that has been extirpated by development 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, a recorded population occurs in Coal Canyon of Chino Hills State Park. Any disturbed or recently burned site with suitable microhabitat conditions in the Puente/Chino Hills may offer 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> ssp. <i>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. Limited suitable habitat is present.</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>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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> <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: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 5: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 6: Unlikely. Outside of the known range of the species, only marginally suitable habitat is present.</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: Present. Observed near the proposed Project 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: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 11: Unlikely. Only marginally suitable habitat is present within these portions of Segment 11, and these areas are highly disturbed.</p>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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.	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 variety within 5 miles of the proposed Project. Additionally, habitat conditions within the proposed Project are marginal for this plant and highly impacted. 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. Segment 10: Unlikely. Outside of the known range of the species. 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.
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.	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 2 records of this species in the vicinity of the proposed Project on Waterman Mountain and Kratka Ridge. 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 2 records of this species in the vicinity of the proposed Project on Waterman Mountain and Kratka Ridge.
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.	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. Potential habitat is present and it is known to occur in southern California (the Consortium of Herbaria lists 148 records of this species) . Segment 7: Unlikely. Known historically from the Chino Hills, but currently considered to be absent from the area. Not observed during protocol-level surveys. Segment 8: Likely: Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands, however not known if this is a native occurrence. Several records occur within the Chino Hills State Park at Coal Canyon and Lower Aliso Canyon. Not observed during focused surveys. Present in Chino Hills State Park. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Present 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.
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.	Segment 4: Absent. Outside of the known range of the species, no suitable habitat present. Segment 5: Absent. Outside of the known range of the species, no suitable habitat present. Segment 6: Absent. Outside of the known range of the species, no suitable habitat present. Segment 7: Unlikely. There are no records of this species within 10 miles of this segment, marginally suitable habitat is present. Segment 8: Possible. A historical population occurs within the proposed Project in the vicinity of Chino Creek. Segment 10: Absent. Outside of the known range of the species, no suitable habitat present. Segment 11: Unlikely. There are no records of the species within 10 miles of this Segment, marginally suitable habitat is present.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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>
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.	<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: Possible. Suitable habitat for this variety may exist within the proposed Project in the San Gabriel River.</p> <p>Segment 8: Possible. This variety could occur within the Puente/Chino Hills and surrounding areas.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Unlikely. The areas of this segment that are within the species elevation range are located in highly developed metropolitan areas.</p>
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.	<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: Likely in the Central Region. Suitable habitat occurs within riparian corridors throughout the ANF.</p> <p>Segment 7: Unlikely. Not known from the Chino/Puente Hills; considered to be absent. Not observed during protocol-level surveys</p> <p>Segment 8: Unlikely. Not known from the Chino/Puente Hills; considered to be absent. Not observed during protocol-level surveys</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Present in the Central Region. This species was detected within 200 feet of tower locations 92 and 93 of this alignment, outside of the ANF. There are also a few known sites around the San Gabriel Mountain foothill cities. Suitable habitat occurs within riparian corridors throughout the ANF.</p>
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.	<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. Known only from four occurrences near the Dawson 'Saddle area. 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: Unlikely. Known only from four occurrences near the Dawson 'Saddle area. Outside of known elevational range for this species.</p>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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 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.	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 subspecies near this segment. Segment 7: Unlikely. Although suitable habitat is present, there are no records of this subspecies within this region. Segment 8: Unlikely. Although suitable habitat is present, there are no records of this subspecies within this region. 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 near the Project alignment.
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.	Segment 4: Unlikely. There are no recorded populations of this species within the Antelope Valley. Segment 5: Possible. There are recorded populations of this species in the vicinity of Big Rock Creek and Big Pines. 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. 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. There are no recorded populations of this species within the Antelope Valley. 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.
Greata's aster <i>Aster greatae</i> = (<i>Symphyotrichum 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-	Segment 4: Unlikely. This segment lies outside the known range of this species, which is endemic to the San Gabriel Mountains. Segment 5: Possible. Recorded occurrence near Acton. Northern portions of the segment in the Antelope Valley are outside the known range of the species. 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. 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. Segment 8: Unlikely. This segment is outside of the known range of the species. The species is endemic to the San Gabriel Mountains.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
		October	<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>
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: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 5: Absent. Outside of the known range of the species, no suitable habitat present.</p> <p>Segment 6: Absent. Outside of the known range of the species, no suitable habitat present.</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. This species is also present in Chino Hills State Park and was identified during surveys for the Alternative 4 re-routes.</p> <p>Segment 10: Absent. Outside of the known range of the species, no suitable habitat present.</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: Absent. Outside of known distribution range for this species, no suitable habitat present.</p> <p>Segment 5: Absent. Outside of known distribution range for this species, no suitable habitat present.</p> <p>Segment 6: Unlikely. Outside of known distribution range for this species, marginal habitat exists.</p> <p>Segment 7: Absent. Outside of known distribution range for this species, no suitable habitat present.</p> <p>Segment 8: Absent. Outside of known distribution range for this species, no suitable habitat present.</p> <p>Segment 10: Absent. Outside of known distribution range for this species, no suitable habitat present.</p> <p>Segment 11: Unlikely. Outside of known distribution range for this species, marginal habitat exists.</p>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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.	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 range for this species although suitable habitat exists in the Central Region. 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 range for this species although suitable habitat exists in the Central Region.
Laguna Mountains jewel- flower <i>Streptanthus</i> <i>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 serpentinite). Elev. 900-6,250 ft. June-August.	Segment 4: Absent. Outside of the known range of the species, no suitable habitat present. Segment 5: Absent. Outside of the known range of the species, no suitable habitat present. Segment 6: Absent. Outside of the known range of the species, no suitable habitat present. Segment 7: Absent. Outside of the known range of the species, no suitable habitat present. Segment 8: Absent. Outside of the known range of the species, no suitable habitat present. Segment 10: Absent. Outside of the known range of the species, no suitable habitat present. Segment 11: Absent. Outside of the known range of the species, no suitable habitat present.
Lemmon's syntrichopappus <i>Syntrichopappus</i> <i>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. Habitat present. Known to occur in the Antelope Valley and surrounding mountains. Segment 5: Possible. Habitat present. Known to occur in the Antelope Valley and surrounding mountains. Segment 6: Possible in the Northern and Central Regions. Habitat present. Known to occur 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. Habitat present. Known to occur 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. Habitat present. Known to occur 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.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Lemon lily <i>Lilium parryi</i>	CNPS 1B, 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.
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.	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. This segment lies outside the known range of this variety. 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. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Unlikely. This segment lies outside the known range of this variety.
Los Angeles sunflower <i>Helianthus nuttallii</i> ssp. <i>parishii</i>	CNPS 1A	Salt or freshwater marshes. Elev. below 5,500 ft. August-October.	Segment 4: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937. Segment 5: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937. Segment 6: Unlikely. This subspecies is presumed extinct and no historical records occur within this portion of the San Gabriel Mountains. Segment 7: Unlikely. The Whittier Narrows area may offer marginal habitat; however, this subspecies is presumed extinct, and has not been seen since 1937. Segment 8: Unlikely. The Whittier Narrows area may offer marginal habitat; however, this subspecies is presumed extinct and has not been seen since 1937. Segment 10: Unlikely. Outside of the known range of the species. Presumed extinct, and has not been seen since 1937. 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.
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.	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. This species is generally restricted to the Los Angeles Basin; however there are several populations in the southern foothills of the San Gabriel Mountains. Segment 7: Present: Documented in a checklist of plants in Whittier Hills (Schneider Ljubenkov and Ross, 2002). Suitable habitat exists in the foothills just south of the ANF. Segment 8: Present: Documented in a checklist of plants in Whittier Hills (Schneider Ljubenkov and Ross, 2002). Observed nearby in the Puente Hills Landfill Native Habitat Preservation Authority lands. Records occur from Chino Hills State Park in Lower Aliso Canyon along the West Ridge Road. Segment 10: Unlikely. Outside of the known range of the species. Segment 11: Possible in the Central and Southern Regions. This species is generally restricted to the Los Angeles Basin;

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			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.
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> ssp. <i>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: Present. Several populations found along access road at northern end of segment. 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 2-10. 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: Absent. Outside of the known range of the species. Segment 5: Absent. Outside of the known range of the species. Segment 6: Unlikely. Project is outside of known distribution range, but marginal habitat exists. Segment 7: Absent. Outside of the known range of the species. Segment 8: Absent. Outside of the known range of the species. Segment 10: Absent. Outside of the known range of the species. Segment 11: Unlikely. Project is outside of known distribution range, but marginal habitat exists.
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: Present in the Central Region. Population found on Alternative 6 helicopter site 4. 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, but marginal habitat exists. Segment 5: Unlikely. Outside of the known range of the species, but marginal habitat exists. 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. A population occurs outside of the project area in the Claremont Wilderness Park north of Claremont (10 miles outside the Project area). 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, but marginal habitat exists. 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. March-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 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 channel just to the west of the Angeles Crest fire station. Likely in the Central Region. This subspecies was observed less

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			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>
Parish's checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	CNPS 1B FSS	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>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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>
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	<p>Segment 4: Absent. This segment lies outside the known range of this species.</p> <p>Segment 5: Possible. There are known occurrences of this species in the vicinity of Rock Creek.</p> <p>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.</p> <p>Segment 7: Absent. Outside of the known range of the species.</p> <p>Segment 8: Absent. Outside of the known range of the species.</p> <p>Segment 10: Absent. This segment lies outside the known range of this species.</p> <p>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.</p>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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. Species also detected between MP 10 and 11, MP 20 and 22, and MP 23 and 24. 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: Absent. Outside of the known range of the species, no suitable habitat exists. Segment 5: Absent. Outside of the known range of the species, no suitable habitat exists. Segment 6: Absent. Outside of known distribution and elevational range for this species, no suitable habitat exists. Segment 7: Absent. Outside of the known range of the species, no suitable habitat exists. Segment 8: Absent. Outside of the known range of the species, no suitable habitat exists. Segment 10: Absent. Outside of the known range of the species, no suitable habitat exists. Segment 11: Absent. Outside of known distribution and elevational range for this species, no suitable habitat exists.
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.
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.	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. 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. 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. 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 species is not known to occur south of the Tehachapi Mountains. Desert Bunchgrass Grassland may provide suitable habitat for this species.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			<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: Present: Observed near the proposed Project 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. Also present in the Chino Hills State Park.</p> <p>Segment 10: Unlikely. Outside of the known range of the species.</p> <p>Segment 11: Present in the Central Region. Population found along access road 3N27, south of Big Tujunga Creek crossing. 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: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 5: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 6: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 7: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 8: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 10: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p> <p>Segment 11: Absent. Outside of known distribution and elevational range for this species, no suitable habitat.</p>
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>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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>
Rock Creek broomrape <i>Orobancha 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.	<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. Closest known population from Glendora Ridge, approximately 6 miles to the east but found as far west as the Los Padres National Forest. Suitable habitat and elevation exists within 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. Closest known population from Glendora Ridge, approximately 10 miles to the east but found as far west as the Los Padres National Forest. Suitable habitat and elevation exists within project area.</p>
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.	<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 subspecies is endemic to the San Gabriel Mountains, and the Consortium of California Herbaria lists 13 records of this subspecies within the area.</p> <p>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.</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>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.	<p>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.</p> <p>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.</p> <p>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. 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.</p> <p>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.</p> <p>Segment 8: Possible: Suitable habitat occurs in the Puente/Chino Hills and surrounding areas.</p> <p>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.</p> <p>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.</p>
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>

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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.	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 on the Prairie Fork of the San Gabriel River within the ANF. Segment 7: Possible. Suitable habitat for this species exists in the Whittier Narrows area and along the San Gabriel River channel. Segment 8: Possible. Two records occur within 5 miles of the proposed Project between Pomona and Ontario. Segment 10: Unlikely. Outside of the known range of the species. 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.
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.	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. There are records of this species along the San Gabriel River and within Alder Gulch. 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. There are records of this species along the San Gabriel River and within Alder Gulch.
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>Fernandina</i>	CNPS 1B.1, FC, SE, FSS	Coastal sage scrub, alluvial fan scrub, non-native grassland, and disturbed habitats on sandy or gravelly soils, dry washes, flats and foothills. 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: Unlikely in the Northern and Central Regions. Outside of historic range, but marginal habitat exists 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: Unlikely. Outside of historic range, but marginal habitat exists.
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.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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.
San Gabriel manzanita <i>Arctostaphylos gabrielensis</i>	CNPS 1B.2, FSS	Rocky chaparral habitats. Elev. 5,000 ft. March.	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. 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. 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: 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.
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.	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. 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. Segment 7: Possible. This segment is adjacent to Fish Canyon, where the species is known to occur. 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: Unlikely. The species was previously known only from the foothill canyons north of Azusa, but was detected along Segment 6 in 2008.
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.	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. A population record for this subspecies occurs between Segment 6 and 11 on Mt. Gleason Rd. 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 record for this subspecies occurs between Segment 6 and 11 on Mt. Gleason Rd.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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.	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. 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. Segment 7: Possible. Suitable habitat for this species 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: Present. 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 the Central Region. 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 Gabriel Mountains north of Altadena and La Cañada Flintridge.
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.	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. This subspecies was detected along the road cut of Sawpit Truck Trail during 2008 and 2009 surveys. 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: Unlikely. This subspecies is primarily known from Fish Canyon in the southern San Gabriel Mountain foothills, near Segment 6. Unlikely in the Northern and Southern Regions as they are outside of the known range of the species.
Scalloped Moonwort <i>Botrychium crenulatum</i>	CNPS 2.2, FSS	Freshwater bogs, fens, marshes, swamps, meadows, seeps, and mesic areas of lower montane coniferous forests. Elev. 4,921-10,761 ft. June-September.	Segment 4: Unlikely. Suitable habitat does not occur. Segment 5: Unlikely. Suitable habitat does not occur. Segment 6: Unlikely. There are no records of this species within 5 miles of the proposed Project. Only marginal habitat for this species is present. Segment 7: Unlikely. Suitable habitat does not occur. Segment 8: Unlikely. Suitable habitat does not occur. Segment 10: Unlikely. Suitable habitat does not occur. Segment 11: Unlikely. There are no records of this species within 5 miles of the proposed Project. Only marginal habitat for this species is present.
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.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
			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.
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	Pleistocene alluvial wash communities. Sandy soils of alluvial fans and sandy stream terraces with chaparral, cismontane woodland, and coastal sage scrub. 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: Unlikely. 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.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Smooth tarplant <i>Hemizonia pungens</i> ssp. <i>laevis</i> (= <i>Centromadia</i> <i>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.
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: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 5: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 6: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 7: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 8: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 10: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found. Segment 11: Absent. Outside of known distribution and elevational range for this species, no suitable habitat found.
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.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Southern skullcap <i>Scutellaria bolanderi</i> ssp. <i>austrorontana</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.
Southern tarplant <i>Hemizonia parryi</i> ssp. <i>australis</i> (= <i>Centromadia</i> <i>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: Absent. Outside of the known range of the species, no suitable habitat found. Segment 5: Absent. Outside of the known range of the species, no suitable habitat found. Segment 6: Absent. The nearest recorded populations occur in the San Bernardino Mountains, no suitable habitat found. Segment 7: Absent. Outside of the known range of the species, no suitable habitat found. Segment 8: Absent. Outside of the known range of the species, no suitable habitat found. Segment 10: Absent. Outside of the known range of the species, no suitable habitat found. Segment 11: Absent: The nearest recorded populations occur in the San Bernardino Mountains, no suitable habitat found.

Table 2-10. Special-Status Plants with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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.
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.	Segment 4: Unlikely. Although suitable habitat is present, there are no reports of this variety occurring north of the Transverse Range. Segment 5: Possible. There is a recorded occurrence of this variety just west of Segment 5 in the foothills of the San Gabriel Mountains. 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. 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. Although suitable habitat is present, there are no reports of this variety occurring north of the Transverse Range. 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.
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.	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. This segment is 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: Possible in the Central Region. Suitable habitat occurs near Mount Gleason.

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 2-11. 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: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</p> <p>Segment 5: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</p> <p>Segment 6: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</p> <p>Segment 7: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</p> <p>Segment 8: Absent. No suitable habitat is present within the project area</p> <p>Segment 10: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</p> <p>Segment 11: Absent. No suitable habitat is present within the project area, outside of the known range of this species.</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: Absent. Project area is outside of known range, no suitable habitat is present within the project area</p> <p>Segment 5: Absent. Project area is outside of known range, no suitable habitat is present within the project area</p> <p>Segment 6: Absent. Project area is outside of known range, no suitable habitat is present within the project area</p> <p>Segment 7: Unlikely. Project area is outside of known range, marginal habitat exists. USFWS considers the taxa extirpated from Los Angeles and San Bernardino counties.</p> <p>Segment 8: Unlikely. Project area is outside of known range, marginal habitat exists. USFWS considers the taxa extirpated from Los Angeles and San Bernardino counties.</p> <p>Segment 10: Absent. Project area is outside of known range, no suitable habitat is present within the project area</p> <p>Segment 11: Absent. Project area is outside of known range, no suitable habitat is present within the project area</p>
Riversidian fairy shrimp (<i>Streptocephalus woottoni</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: Absent. No vernal pools were found within the project area, outside of the known range of this species.</p> <p>Segment 5: Absent. No vernal pools were found within the project area, outside of the known range of this species.</p> <p>Segment 6: Absent. No vernal pools were found within the project area, outside of the known range of this species.</p> <p>Segment 7: Absent. No vernal pools were found within the project area</p> <p>Segment 8: Absent. No vernal pools were found within the project area</p> <p>Segment 10: Absent. No vernal pools were found within the project area, outside of the known range of this species.</p> <p>Segment 11: Absent. No vernal pools were found within the project area</p>

Table 2-11. 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 marginal 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: Absent. Outside of the known range, no suitable habitat.</p> <p>Segment 5: Absent. Outside of the known range, no suitable habitat.</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, marginal habitat present.</p> <p>Segment 8: Unlikely. This species is only found in the upper portions of the Santa Ana River watershed and limited to one creek (R. Rodriguez, CDFG, pers. comm.).</p> <p>Segment 10: Absent. Outside of the known range, no suitable habitat.</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: Absent. Outside of the known range, no suitable habitat.</p> <p>Segment 5: Absent. Outside of the known range, no suitable habitat.</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, marginal habitat present.</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: Absent. Outside of the known range, no suitable habitat.</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 2-11. 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: Absent. Outside of the known range of this species, no suitable habitat.</p> <p>Segment 5: Absent. Outside of the known range of this species, no suitable habitat.</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, marginal habitat present.</p> <p>Segment 8: Absent. Outside of the known range of this species.</p> <p>Segment 10: Absent. Outside of the known range of this species, no suitable habitat.</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: Absent. 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, south of the Vincent Substation although they were not detected here during 2008 and 2009 protocol-level surveys..</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: Absent. 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, south of the Vincent Substation although they were not detected here during 2008 and 2009 protocol-level surveys. 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: Absent. No suitable breeding habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Possible. Moderate suitable habitat exists in the Amargosa Creek system, and there is a CNDDDB record of a population documented in 1996 located in an artesian pond adjacent to Amargosa Creek approximately 2.4 miles from the Project crossing with Amargosa Creek. Surveys conducted in subsequent years in adjacent Amargosa Creek were negative. California red -legged frogs are known to move 2-3 miles upstream and downstream in a stream corridor. Not detected during focused surveys in 2006, 2007, and 2008.</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: Absent. 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; Although suitable habitat exists in Upper Big Tujunga Canyon and other drainages</p>

Name	Status*	Habitat	Occurrence Within Project Area
			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 although historical records exist in the foothills nearby in Aliso Canyon. Unlikely in the Southern Region; Likely extirpated.
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: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 5: Absent. 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. Absent in the Northern Region; Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 7: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 8: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 10: Absent. 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 and historical records exist. Absent 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: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 5: Absent. 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, Little Rock Creek, South Fork of Big Rock Creek, Upper Tujunga Canyon, east fork of Alder Creek, Bear and Vincent Gulches, and numerous other nearby canyons hold historical records. Nearest recent record from 2002, in Devil's Canyon approximately 6 miles east of Segment 6. Unlikely in the Northern Region due to lack of habitat and location 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: Absent. No suitable habitat is present, and this segment is outside the known range of the species.</p> <p>Segment 10: Absent. 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 and historical records exist in many nearby canyons, no recent records exist nearby. Species is thought to have been extirpated from >99% or former range in Southern California. Unlikely in the Northern and Southern Regions 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: Absent. No suitable habitat for this species, outside of the known range.</p> <p>Segment 5: Absent. No suitable habitat for this species, outside of the known range.</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: Absent. No suitable habitat for this species, outside of the known range.</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 2-11. 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: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. 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. Soquel Creek in Chino Hills State Park also contains possible suitable habitat for this species.</p> <p>Segment 10: Absent. 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: Absent. Outside of the known range, no suitable habitat.</p> <p>Segment 5: Unlikely. Outside of the known range, marginal habitat present.</p> <p>Segment 10: Absent. Outside of the known range, no suitable habitat.</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, marginal habitat present.</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: Absent. Known from the Tehachapi Mountains. Area is outside of the known range for this species. Suitable habitat not available.</p> <p>Segment 5: Absent. 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, marginal habitat present.</p> <p>Segment 7: Absent. Known from the Tehachapi Mountains. Area is outside of the known range for this species, no suitable habitat.</p> <p>Segment 8: Absent. Known from the Tehachapi Mountains. Area is outside of the known range for this species. Suitable habitat not available.</p> <p>Segment 10: Absent. Known from the Tehachapi Mountains. Area is outside of the known range for this species, no suitable habitat.</p> <p>Segment 11: Unlikely. Known from the Tehachapi Mountains. Area is outside of the known range for this species, marginal habitat present.</p>
Yellow-blotched Salamander <i>Ensatina eschscholtzii</i>	FSS, CSSC	Litter and debris of oak woodland, pine dominated open woodland, and fir	<p>Segment 4: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 5: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 6: Absent. Although suitable habitat exists in some areas, this segment is well outside of the known range of this subspecies.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
<i>croceater</i>		dominated open forest.	<p>Segment 7: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 8: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 10: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 11: Absent. Although suitable habitat exists in some areas, this segment is well outside of the known range of this subspecies.</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. Possible in the Central Region. 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. Possible 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: Present. Known to occur near this segment. Detected by AMEC in 2008. 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: Likely. Documented nearby in the Puente-Chino Hills by LSA (2007) and USGS (2007).</p> <p>Segment 8: Present. Observed in the Puente-Chino Hills (LSA, 2007; USGS, 2007). Also present within Chino Hills State Park near Alternative 4.</p> <p>Segment 10: Possible. Suitable habitat is present, and this segment is likely within 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>
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.	<p>Segment 4: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 5: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 6: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 7: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 8: v. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 10: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p> <p>Segment 11: Absent. Not likely to occur due to lack of habitat and segment is outside of the known distribution for this species.</p>
Orange-throated Whiptail <i>Aspidoscelis</i>	CSSC	Chaparral, thornscrub, and frequently sandy	<p>Segment 4: Unlikely. Outside the species' known range, marginal habitat present.</p> <p>Segment 5: Unlikely. This segment lies outside the species' known range, marginal habitat present.</p> <p>Segment 6: Unlikely. This segment lies outside the species' known range, marginal habitat present.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
<i>hyperythrus beldingi</i>		areas of washes, streams, and terraces with streamside vegetation. Rocky slopes with patches of brush are often utilized.	<p>Segment 7: Unlikely. This segment lies well outside the species' known range, marginal habitat present.</p> <p>Segment 8: Likely. Suitable habitat occurs at several locations within Segment 8, including within the Puente and Chino Hills. Known from Chino Hills State Park near Alternative 4.</p> <p>Segment 10: Unlikely. This segment lies outside the species' known range, marginal habitat present.</p> <p>Segment 11: Unlikely. This segment lies well outside the species' known range, marginal habitat present.</p>
<p>Silvery Legless Lizard <i>Anniella pulchra pulchra</i></p> <p>California Legless Lizard <i>Anniella pulchra</i></p>	<p>CSSC</p> <p>FSS</p>	Sandy or loose loamy soils covered by sparse vegetation. Chaparral, pine-oak woodland, washes, streamside terraces utilized. Elevated soil moisture is required.	<p>Segment 4: Unlikely. Does not occur due to lack of habitat.</p> <p>Segment 5: Present. Observed by AMEC at Amargosa Creek in 2008..</p> <p>Segment 6: Present. A legless lizard was detected in the West Fork San Gabriel River. Occurrence records are lacking. However, this species is highly cryptic and some suitable habitat is present. Unlikely in the Northern Region; Does not occur due to lack of habitat.</p> <p>Segment 7: Likely. May occur across a variety of undeveloped habitats with friable soils and sparse vegetation.</p> <p>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.</p> <p>Segment 10: Unlikely. Does not occur due to lack of habitat.</p> <p>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.</p>
<p>South Coast Garter Snake <i>Thamnophis sirtalis spp.</i></p>	CSSC	Marsh habitats of perennial or nearly perennial water and the surrounding uplands.	<p>Segment 4: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Possible. Although suitable habitat is present along several drainages, this taxon is very uncommon or extirpated in Los Angeles Co.</p> <p>Segment 7: Unlikely. Although suitable habitat is present along several drainages, this species is uncommon in Los Angeles Co.</p> <p>Segment 8: Unlikely. Although suitable habitat is present along several drainages, this species is uncommon in Los Angeles Co.</p> <p>Segment 10: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Possible. Although suitable habitat is present along several drainages, this taxon is very uncommon or extirpated in Los Angeles Co.</p>
<p>Two-striped Garter Snake <i>Thamnophis hammondi</i></p>	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. Possible suitable habitat present in Soquel Creek within Chino Hills State Park.</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>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
Coast Patch-nosed Snake <i>Salvadora hexalepis virgulata</i>	CSSC	Inhabits chaparral or other habitats relatively sparse, brushy or shrubby vegetation.	<p>Segment 4: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. 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: Absent. 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: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. 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: Absent. 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>
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.	<p>Segment 4: Unlikely. Suitable habitat is not present.</p> <p>Segment 5: Unlikely. Suitable habitat is not present.</p> <p>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.</p> <p>Segment 7: Unlikely. Suitable habitat is not present.</p> <p>Segment 8: Unlikely. Suitable habitat is not present.</p> <p>Segment 10: Unlikely. Suitable habitat is not present.</p> <p>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.</p>
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.	<p>Segment 4: Absent. This segment lies well outside the species' known range.</p> <p>Segment 5: Absent. This segment lies well outside the species' known range.</p> <p>Segment 6: Absent. This segment lies well outside the species' known range.</p> <p>Segment 7: Absent. This segment lies well outside the species' known range.</p> <p>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.</p> <p>Segment 10: Absent. This segment lies well outside the species' known range.</p> <p>Segment 11: Absent. This segment lies well outside the species' known range.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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.	<p>Segment 4: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>Segment 5: Unlikely. This segment lies well outside the species' known range, marginal habitat present.</p> <p>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.</p> <p>Segment 7: Possible. Potential habitat is present within some undeveloped areas.</p> <p>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</p> <p>Segment 10: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>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.</p>
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.	<p>Segment 4: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>Segment 5: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>Segment 6: Present. Has been found in the West Fork San Gabriel River. Species was also detected in Upper Big Tujunga Canyon (AMEC 2008). Unlikely in the Northern Region; This area lies well outside the species' known range.</p> <p>Segment 7: Possible. Limited potential habitat near the ANF boundary.</p> <p>Segment 8: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>Segment 10: Absent. This segment lies well outside the species' known range, no suitable habitat.</p> <p>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.</p>
San Diego Mountain Kingsnake <i>Lampropeltis zonata pulchra</i>	FSS, CSSC	A variety of habitats, including coniferous 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 4: Absent. This segment is likely outside the range of this species, no suitable habitat.</p> <p>Segment 5: Absent. This segment is likely outside the range of this species, no suitable habitat.</p> <p>Segment 6: Absent. This segment is likely outside the range of this species.</p> <p>Segment 7: Unlikely. Limited potential of habitat near Puente Hills.</p> <p>Segment 8: Unlikely. Marginal habitat exists. The Chino Hills State Park General Plan (1999) states it is unlikely.</p> <p>Segment 10: Absent. This segment is likely outside the range of this species, no suitable habitat.</p> <p>Segment 11: Unlikely 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: Absent. Suitable habitat absent, outside of the known range.</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: Absent. Suitable habitat absent, outside of the known range.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			Segment 11: Likely in the Central 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.
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: Possible. Suitable habitat exists within the creosote scrub and Joshua tree woodland habitats of this segment. The species is may be present in low numbers (USFWS) although the species was not detected during focused surveys conducted in June 2006 and reconnaissance surveys in 2007. This segment falls within the clearance survey area of the West Mojave Plan.</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: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 7: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 8: Absent. Suitable habitat is absent, and these segments lie outside the current known range of the species.</p> <p>Segment 10: Possible. Suitable habitat exists within the creosote scrub and Joshua tree woodland habitats. Three individuals were reported within a mile of the segment, which falls within the clearance survey area of the West Mohave Plan.</p> <p>Segment 11: Absent. 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 managed in the Sheep management area of the San Gabriel Mtns.	<p>Segment 4: Absent. Outside of known range, no suitable habitat.</p> <p>Segment 5: Absent. Outside of known range, no suitable habitat.</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 been reported from Santa Anita Canyon. Known to occur from San Gabriel Wilderness area south to West Fork San Gabriel River.</p> <p>Segment 8: Absent. Outside of known range, no suitable habitat.</p> <p>Segment 10: Absent. Outside of known range, no suitable habitat.</p> <p>Segment 11: Unlikely. Outside of known range.</p>
American Badger <i>Taxidea taxus</i>	CSSC	Occurs in open habitats, including grasslands, desert scrub, agricultural fields and pastures, and sparse coastal scrub.	<p>Segment 4: Likely. Suitable grassland, desert scrub, and agricultural field habitat present.</p> <p>Segment 5: Likely. Suitable grassland, desert scrub, and agricultural field habitat present.</p> <p>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 Cental Region.</p> <p>Segment 7: Unlikely. Marginal habitat observed at the base of the southern slope of the San Gabriel Mountains.</p> <p>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.</p> <p>Segment 10: Likely. Suitable grassland, desert scrub, and agricultural field habitat present.</p> <p>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.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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.	<p>Segment 4: Unlikely. Marginal habitat occurs along washes.</p> <p>Segment 5: Possible. Suitable habitat exists along Amargosa Creek.</p> <p>Segment 10: Possible. Suitable habitat exists along Oak Creek in the vicinity.</p> <p>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.</p> <p>Segment 7: Possible. There is suitable habitat in San Gabriel foothills.</p> <p>Segment 8: Possible. Suitable habitat exists in the Puente and Chino Hills.</p> <p>Segment 11: Present in the Central Region; Suitable habitat exists along Big Tujunga Creek, West Fork of the San Gabriel River, and forested areas. Ringtails were observed immediately south and north of Mt. Gleason Rd. (AMEC, 2007). Possible in the Northern 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.</p>
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.	<p>Segment 4: Absent. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 5: Absent. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>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.</p> <p>Segment 7: Likely. Suitable habitat in San Gabriel foothills.</p> <p>Segment 8: Likely. Suitable habitat in the Segment 8 alignment within the Puente and Chino Hills.</p> <p>Segment 10: Absent. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>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.</p>
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: Unlikely. 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: Absent. Not likely to occur due to lack of habitat, outside of the known range.</p> <p>Segment 7: Absent. Not likely to occur due to lack of habitat, outside of the known range.</p> <p>Segment 8: Absent. Not likely to occur due to lack of habitat, outside of the known range.</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: Absent. Not likely to occur due to lack of habitat, outside of the known range.</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: Absent. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 5: Absent. No suitable habitat is available for this species and area is outside of the known range for this species.</p> <p>Segment 10: Absent. 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: Present. 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</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			habitat in the Chino and Puente Hills. 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.
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.	Segment 4: Absent. Outside of the geographic range for the species. Segment 5: Absent. Outside of the geographic range for the species. Segment 6: Absent. Outside of the geographic range for the species. Segment 7: Absent. Outside of the geographic range for the species. 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. Segment 10: Absent. Outside of the geographic range for the species. Segment 11: Absent. Outside of the geographic range for the species.
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.	Segment 4: Absent. Suitable habitat is absent, outside of the known range. Segment 5: Absent. Suitable habitat is absent, outside of the known range. Segment 6: Absent. Suitable habitat is absent, outside of the known range. Segment 7: Unlikely. Marginal habitat in the Whittier Narrows Recreation Area, although this species is probably extirpated here. 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). Segment 10: Absent. Suitable habitat is absent, outside of the known range. Segment 11: Unlikely. Marginal habitat the foothills of the San Gabriel Mountains, especially near Eaton Wash.
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.	Segment 4: Absent. This segment lies well outside the species' known range, no suitable habitat. Segment 5: Absent. This segment lies well outside the species' known range, no suitable habitat. 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. Segment 7: Possible. Nearest record is approximately 11.5 miles to east, but marginally suitable habitat exists in the southern San Gabriel foothills. Segment 8: Possible. Suitable habitat within the Chino and Puente Hills. Segment 10: Absent. This segment lies well outside the species' known range, no suitable habitat. 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.

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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. Absent in the southern portion of this segment.</p> <p>Segment 7: Absent. Out of the known range for this species, conditions unsuitable for occurrence. Nearest records for this species occur 20 miles west of the Vincent Substation.</p> <p>Segment 8: Absent. Out of the known range for this species, conditions unsuitable for occurrence. 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. Absent in the southern portion of this segment.</p>
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>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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>
Tulare Grasshopper Mouse <i>Onychomys torridus tularensis</i>	CSSC	Occurs in alkali desert scrub, succulent shrub, arid grassland, and desert wash or riparian communities.	<p>Segment 4: Unlikely. Edge of the southern distribution of this subspecies occurs near the eastern end of this segment.</p> <p>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.</p> <p>Segment 6: Unlikely. Segment is outside of the known range of the species.</p> <p>Segment 7: Unlikely. Segment is outside of the known range of the species.</p> <p>Segment 8: Unlikely. Segment is outside of the known range of the species.</p> <p>Segment 10: Unlikely. Edge of the southern distribution of this subspecies occurs near the northern portion of Segment 10.</p> <p>Segment 11: Unlikely. Segment is outside of the known range of the species.</p>
MAMMALS (BATS)			
Big Free-tailed Bat <i>Nyctinomops macrotis</i>	CSSC	Roosts primarily in caves, cliffs, rocky areas, and buildings, and occurs in primarily arid habitats.	<p>Segment 4: Absent. No suitable habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 5: Absent. No suitable habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 6: Absent. No suitable habitat exists, and this segment lies well outside the known range of the species.</p> <p>Segment 7: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment.</p> <p>Segment 8: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment.</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: Unlikely. Some marginal roosting habitat was observed in the southern portion of this segment. May rarely migrate through this segment.</p>
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.	<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 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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.	<p>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.</p> <p>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</p> <p>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.</p> <p>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.</p> <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. Marginal 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; Marginal roosting habitat was observed. Foraging habitat was observed throughout. However, roosting habitat was not observed in the Southern Region.</p>

Name	Status*	Habitat	Occurrence Within Project Area
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 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.</p>
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>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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 current known range of the species.</p> <p>Segment 5: Unlikely. No suitable breeding habitat exists, and this segment lies well outside the current known range of the species.</p> <p>Segment 6: Present. Individuals have been recorded in the ANF in the recent past. Nesting habitat is present in the ANF. 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 and species has the potential to fly through this area.</p> <p>Segment 8: Unlikely. Segment is well outside of current known range. No nesting habitat and only marginal foraging habitat. There is a future 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 current 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>
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.</p> <p>Segment 5: Unlikely. No suitable breeding habitat exists.</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.</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 Prado Basin, adjacent to the Chino Hills State Park Area, however suitable foraging habitat is absent in CHSP. The individuals observed were likely migrants or wintering as there is no suitable nesting habitat in or near the Project area.</p> <p>Segment 10: Unlikely. No suitable breeding habitat exists.</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.</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: Likely. Suitable habitat is present on 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 the Central Region; suitable habitat is present on the ANF. Golden Eagles have been known to nest in Arroyo Seco Canyon. Possible in the Northern Region; Suitable foraging habitat is present.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area

Name	Status*	Habitat	Occurrence Within Project Area
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 nesting habitat exists. Likely for wintering and migrant birds.</p> <p>Segment 5: Possible. Marginal nesting habitat exists at Amargosa Creek. Likely for wintering</p> <p>Segment 6: Likely. Suitable nesting and foraging habitat is widespread and fairly common in the ANF. Expected to occur during migration and winter along this segment.</p> <p>Segment 7: Present. Species observed in Whittier Narrows area (AMEC, 2007). 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 10: Unlikely. No suitable nesting habitat exists. Likely for wintering and migrant birds.</p> <p>Segment 11: Present. Observed outside of nesting season. Suitable nesting habitat in the San Gabriel Mountains and foothills and marginal nesting habitat in suburban areas with mature trees.</p>
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: Absent. Not likely to occur due to lack of foraging habitat.</p> <p>Segment 7: Absent. 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: Absent. 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. No suitable nesting habitat exists. Migrant and wintering birds likely.</p> <p>Segment 5: Unlikely. No suitable nesting habitat exists. Migrant and wintering birds likely.</p> <p>Segment 6: Possible in the Central Region; There is some suitable nesting habitat in the densely wooded habitats through the ANF but only one documented nesting in the San Gabriel Mts. (Icehouse Cyn, near Mt. Baldy). Nesting unlikely in the Northern Region. Migrant and wintering birds are likely throughout the segment.</p> <p>Segment 7: Present. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands (LSA, 2007).</p> <p>Segment 8: Present. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands (LSA, 2007).</p> <p>Segment 10: Unlikely. No suitable nesting habitat exists. Migrant and wintering birds likely.</p> <p>Segment 11: Possible in the Central Region; There is some suitable nesting habitat in the densely wooded habitats through the ANF but only one documented nesting in the San Gabriel Mountains (Icehouse Cyn, near Mt. Baldy). No nesting habitat in the Northern and Southern Regions.</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: Present. Five active nests were detected within four miles.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.
Northern Goshawk <i>Accipiter gentilis</i>	FSS, CSSC (nesting)	Nests in old growth stands of conifer and conifer/hardwood forests.	Segment 4: Unlikely. Suitable habitat is absent Segment 5: Unlikely. Suitable habitat is absent Segment 6: Possible. Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains, but surveys for this species have not been conducted. Segment 7: Unlikely. Suitable habitat is absent Segment 8: Unlikely. Suitable habitat is absent Segment 10: Unlikely. Suitable habitat is absent Segment 11: Possible. Suitable nesting and foraging habitat is limited and highly fragmented in the ANF. Not recorded as nesting in the San Gabriel Mountains, but surveys for this species have not been conducted.
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: Absent. Suitable habitat is absent Segment 5: Absent. Suitable habitat is absent Segment 6: Absent. 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. Observed in CHSP during surveys conducted for Alternative 4 in 2009. Segment 10: Absent. 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.

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within 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.	<p>Segment 4: Unlikely. A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds.</p> <p>Segment 5: Unlikely. A few migrate through the Antelope Valley, but are more likely to occur at the freshwater marshes and sewage ponds.</p> <p>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.</p> <p>Segment 7: Possible. Migrants are widespread. Nesting habitat and habitats that would attract Peregrine Falcons for prolonged periods are absent.</p> <p>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</p> <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>
Prairie Falcon <i>Falco mexicanus</i> (nesting)	CDFG WL	Forages in desert scrub, grasslands, agricultural fields and Joshua tree woodland. Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands.	<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. Absent in the Central Region; suitable habitat is not available.</p> <p>Segment 7: Unlikely. Suitable habitat is not available.</p> <p>Segment 8: Present. This species has been observed foraging in the Puente/Chino Hills and Chino Hills State Park (CHSP, 1999; Scott and Cooper, 1999)..</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. Absent in the Southern and Central Regions; suitable habitat is not available.</p>
White-tailed Kite <i>Elanus leucurus</i> (nesting)	CDFG FP	Forages in open grasslands, desert scrub and agricultural fields. Nests on trees and large shrubs.	<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,</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.
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: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. 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: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 8: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 10: Absent. 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>
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: Absent: Does not occur due to lack of habitat.</p> <p>Segment 6: Absent: Does not occur due to lack of habitat.</p> <p>Segment 7: Absent: Does not occur due to lack of habitat.</p> <p>Segment 8: 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 10: Absent: Does not occur due to lack of habitat.</p> <p>Segment 11: Absent: Does not occur due to lack of habitat.</p>
Western Burrowing Owl <i>Athene cuculari</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: Possible. Within known range of species. Suitable foraging habitat is present. 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>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			<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>
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. Likely in Northern Region (based on observation at nearby Segment 11).</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. Present in the Northern Region (Aliso Canyon).</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>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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>
Coastal California Gnatcatcher <i>Polioptila californica californica</i>	FT, CSSC	Coastal sage scrub habitats of southern California coastal slope, generally below 950 feet.	<p>Segment 4: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 5: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 6: Unlikely. Some marginally suitable habitat in San Gabriel foothills. Although the gnatcatcher was detected in the city of Arcadia, below the Forest boundary the steep slopes above the valley do not provide quality habitat. Historic sightings have been found in Big Santa Anita Wash and Monrovia (Garrett 1993).</p> <p>Segment 7: Present. Observed in the Montebello Hills in 2005 and during protocol-level surveys in 2007 (AMEC, 2008).</p> <p>Segment 8: Present. Observed in the Montebello and Puente Hills Landfill Native Habitat Preservation Authority lands in 2005 and 2007, Turnbull Canyon Road in 2007 (AMEC, 2008), and Powder Canyon (Alt 4 re-routes) in 2009.</p> <p>Segment 10: Absent. No suitable habitat exists, and this segment lies outside the known range of the species.</p> <p>Segment 11: Unlikely. 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: Absent. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 5: Absent. 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: Absent. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 8: Absent. Outside the known range for this species and no suitable habitat exists.</p> <p>Segment 10: Absent. 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. Five territories were detected in CHSP during surveys for the Alternative 4 routes in 2009.</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</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.
Coastal Cactus Wren <i>Campylorhynchus brunneicapillus</i>	CSSC (San Diego and Orange Counties only)	Closely associated with coastal sage scrub vegetation that contains patches of cholla or prickly pear cactus. The species is usually found at elevations of 490 feet or less, but it is known to occur at elevations of up to 1,480 feet.	Segment 4: Unlikely. Outside of the known range for this species. Segment 5: Unlikely. Outside of the known range for this species. Segment 6: Possible. Scattered populations are known from the lower slopes of the San Gabriel Mountains but not known to occur on the ANF. Potential habitat exists on the ANF. Segment 7: Likely. Scattered populations are known from the lower slopes of the San Gabriel Mountains. Segment 8: Present. Documented in the Puente Hills Landfill Native Habitat Preservation Authority lands (LSA, 2000). Also present within Chino Hills State Park near Rolling M Ranch and in Aliso Canyon. Segment 10: Unlikely. Outside of the known range for this species. Segment 11: Possible. Scattered populations are known from the lower slopes of the San Gabriel Mountains but not known to occur on the ANF. Potential habitat exists on the ANF.
LeConte's Thrasher <i>Toxostoma lecontei</i>	CSSC	Occurs in desert scrub habitats, open washes, and Joshua tree woodland.	Segment 4: Possible. Suitable habitat is present in desert washes and desert scrub. Segment 5: Possible. Suitable habitat is present in desert washes and desert scrub communities. 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. Segment 7: Unlikely. Suitable habitat is absent Segment 8: Unlikely. Suitable habitat is absent Segment 10: Present. Recorded (CNDDDB, 2009). Suitable habitat is present in desert washes and desert scrub communities. 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.
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.	Segment 4: Absent. Foraging and nesting habitat is absent. Segment 5: Absent. Foraging and nesting habitat is absent. Segment 6: Absent. Foraging and nesting habitat is absent. Segment 7: Possible; Marginally suitable nesting habitat in the disturbed and ruderal habitats. Segment 8: Present; Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands during surveys conducted in 2000. Segment 10: Absent. Foraging and nesting habitat is absent. Segment 11: Absent. Foraging and nesting habitat is absent.
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.	Segment 4: Present. Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant. Segment 5: Present. Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant. 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. Segment 7: Likely. Suitable foraging and nesting habitat present at Whittier Narrows and much of this segment. 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. Segment 10: Present Observed during reconnaissance surveys conducted in 2007. Suitable habitat is abundant.

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.
Olive-sided Flycatcher <i>Contopus cooperi</i> (nesting)	CSSC	Nests in late-successional coniferous forests with open canopies.	Segment 4: Unlikely. Outside the known range for this species. Segment 5: Unlikely. Outside the known range for this species. Segment 6: Present in the Central Region. Known from the ANF (AMEC, 2007; pers. comm. P. Krueger, FS). Segment 7: Present. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands (LSA, 2007). Segment 8: Present. Observed in the Puente Hills Landfill Native Habitat Preservation Authority lands (LSA, 2007). Segment 10: Unlikely. Outside the known range for this species. Segment 11: Present in the Central Region. Known from the ANF (AMEC, 2007; pers. comm. P. Krueger, FS).
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> (nesting)	SE, FE	Breeds in densely vegetated riparian associations of cottonwoods and willows	Segment 4: Unlikely. Does not occur due to lack of habitat. Segment 5: Unlikely. Marginally suitable breeding habitat along Amargosa. Segment 6: Likely 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. 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. 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. Segment 10: Unlikely. Does not occur due to lack of habitat. 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.
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.	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. Segment 5: Possible: Potentially suitable breeding habitat along Amargosa Creek. Segment 6: Absent: Does not occur due to lack of habitat. Segment 7: Absent: Does not occur due to lack of habitat. Segment 8: Absent: Does not occur due to lack of habitat. Segment 10: Absent: Does not occur due to lack of habitat. Segment 11: Absent: Does not occur due to lack of habitat.

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
Summer Tanager <i>Piranga rubra</i> (nesting)	CSSC	Breeds in mature, desert riparian habitats dominated by cottonwood and willow.	<p>Segment 4: Absent. 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. Nesting records exist for Soledad Canyon (1998).</p> <p>Segment 7: Absent. Does not occur due to lack of habitat.</p> <p>Segment 8: Absent. Does not occur due to lack of habitat.</p> <p>Segment 10: Absent. 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. Nesting records exist for Soledad Canyon (1998). Unlikely in the Northern and Southern Regions; Does not occur due to lack of habitat.</p>
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: Present. Foraging birds were observed in this area in 2009.</p> <p>Segment 6: Absent. 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: Absent. Does not occur due to lack of habitat.</p> <p>Segment 11: Absent. 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, nesting habitat lacking but nearby nesting sites exist in Antelope Valley.</p> <p>Segment 5: Unlikely. Outside the known range for this species, nesting habitat lacking but nearby nesting sites exist in Antelope Valley.</p> <p>Segment 6: Possible in the Central Region but nesting unlikely (AMEC, 2007). 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, nesting habitat lacking but nearby nesting sites exist in Antelope Valley.</p> <p>Segment 11: Possible in the Central Region but nesting unlikely (AMEC, 2007). 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: Possible. Marginal habitat occurs at Amargosa Creek.</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: Present. 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. Observed in CHSP during surveys conducted for the Alternative 4 routes in 2009.</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</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
			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.
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: Possible. Suitable habitat occurs at Amargosa Creek.</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: Present. Occurs in the Whittier Narrows and along the Rio Hondo (AMEC, 2007).</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: Absent. Does not occur due to lack of habitat, outside of the known range.</p> <p>Segment 5: Unlikely. Marginally suitable breeding habitat along Amargosa Creek.</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: Present. One individual was observed at the Rio Hondo in 2009 (M. Benjamins, pers. comm.) Potential habitat occurs at Whittier Narrows and in drainages in the Puente/Chino Hills, although this species has not been recorded there.</p> <p>Segment 8: Present. One individual was observed at the Rio Hondo in 2009 (M. Benjamins, pers. comm.) Potential habitat occurs at Whittier Narrows and in drainages in the Puente/Chino Hills, although this species has not been recorded there.</p> <p>Segment 10: Absent. Does not occur due to lack of habitat, outside of the known range.</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>
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>
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	<p>Segment 4: Unlikely. No suitable habitat exists, within wintering range.</p> <p>Segment 5: Unlikely. Potential habitat may occur at Lake Palmdale.</p> <p>Segment 6: Unlikely. No suitable habitat exists, within wintering range.</p> <p>Segment 7: Unlikely. Potential habitat may occur at ponds at the sand and gravel mines along Segment 7 near the Santa Fe Dam Recreation Area.</p> <p>Segment 8: Unlikely. Marginal habitat exists in the Whittier Narrows area. Potential habitat may occur at Legg Lake.</p> <p>Segment 10: Unlikely. No suitable habitat exists, within wintering range.</p>

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
		to shallow coastal marine habitat.	Segment 11: Unlikely. No suitable habitat exists, within wintering range.
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: Present in the Central Region (Forest Records, 2009). Known from the ANF (pers. comm. P. Krueger, FS). Segment 7: Present. Observed at and near Santa Fe Dam. Likely a transient in this area, but could nest in Santa Fe Dam (AMEC, 2007). Segment 8: Present. Observed at Whittier Narrows, and potential nesting habitat is present (AMEC, 2007). 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: Absent. Outside of current range of species and no suitable habitat exists. Segment 5: Absent. Outside of current range of species and no suitable habitat exists. Segment 6: Absent. Outside of current range of species and no suitable habitat exists. Segment 7: Absent. Outside of current range of species and no suitable habitat exists. Segment 8: Absent. Outside of current range of species and no suitable habitat exists. Segment 10: Absent. Outside of current range of species and no suitable habitat exists. Segment 11: Absent. 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: Absent. Suitable habitat is absent. Segment 5: Absent. Suitable habitat is absent. Segment 6: Absent. 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: Absent. Suitable habitat is absent. Segment 11: Absent. 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: Absent. Suitable habitat is absent. Segment 5: Absent. Suitable habitat is absent. Segment 6: Absent. Suitable habitat is absent. Segment 7: Possible. Suitable habitat is present. Occurrence near Santa Fe Dam is most likely during winter. Nesting possible in the Whittier Narrows area. Segment 8: Possible. Suitable habitat is present. Nesting is possible in the Whittier Narrows area. Segment 10: Absent. Suitable habitat is absent. Segment 11: Absent. Suitable habitat is absent.
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.	Segment 4: Absent. Suitable foraging and nesting habitat is absent Segment 5: Absent. Suitable foraging and nesting habitat is absent Segment 6: Absent. Suitable foraging and nesting habitat is absent Segment 7: Unlikely. Nesting habitat is absent. Foraging habitat in San Gabriel River at Santa Fe Dam and Whittier Narrows is marginal Segment 8: Present. Observed at east end in Cucamonga Creek and in dairy ponds. However, nesting habitat is absent from Segment 8. Segment 10: Absent. Suitable foraging and nesting habitat is absent

Table 2-11. Special-Status Wildlife with the Potential to Occur in the Project Area			
Name	Status*	Habitat	Occurrence Within Project Area
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: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 5: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 6: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 7: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 8: Unlikely. Marginal habitat exists in this segment.</p> <p>Segment 10: Absent. No suitable habitat exists, outside of the known range.</p> <p>Segment 11: Absent. No suitable habitat exists, outside of the known range.</p>

FC = Federal Candidate Species
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

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 1.2.3. The affected environment for Alternative 3 would be exactly the same as the proposed Project, with regard to Biological Resources. Therefore, the habitats and special-status plant and animal species described above in Section 2.3 apply to Alternative 3 as well as the proposed Project. Habitats occurring within the Alternative 3 re-route are listed in Table 2-12 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%

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, under Alternative 4, Segment 8A 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 and the Chino Hills State Park (CHSP/Park). No construction would occur along Segment 8C, but upgrades to Segment 8B (Chino-Mira Loma No. 1 and No. 2) between Chino and Mira Loma Substations through the cities of Chino and Ontario would occur as described under Alternative 2.

While all of the same habitats and special-status species described as occurring in the Southern Region (see Section 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 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 five different routing options (Routes A through D and 4C Modified), 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 1.2.4 (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 2-13 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H. 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.

Table 2-13. Vegetation Types Occurring in the Alternative 4A Re-Route		
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 milk vetch species (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 2-14 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H. 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 2-14. 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 2-15 below. As described above, the majority of these habitats also occur within the proposed Project and are described in detail in Appendix H. Aliso Creek and approximately 10 unnamed drainages and small tributaries would be crossed by Route C.

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 C Modified

Alternative 4, Route C Modified (“Route 4C Modified”) is similar to the original Route C option discussed above, with the exceptions that (1) the new gas-insulated switching station would be located approximately 2,500 feet northwest of the location described for the original Alternative 4C, (2) transmission line configurations and access roads would be altered to account for relocation of the switching station, and (3) re-routing of the existing single-circuit 500-kV towers in CHSP to the new switching station would occur utilizing double-circuit 500-kV towers. As with the original Route C, this proposed Route 4C Modified would also divert from the proposed Project Segment 8A at Mile 19.2, as well as re-route the existing 500-kV and 220-kV T/Ls from within CHSP, through a new switching station located north of CHSP.

After diverging from Segment 8A at Mile 19.2, Route 4C Modified would turn to the southeast, continuing for approximately 3.9 miles (versus 4.2 miles under the original Route 4C), running parallel and south of the existing Mira Loma–Walnut/Olinda 220-kV double-circuit T/L. This portion of Route 4C Modified would require a ROW expansion of approximately 150 feet in width to accommodate the new 500-kV double-circuit T/L structures. Approximately 0.3 mile north of the CHSP boundary, Route 4C Modified would turn east within a new 300-foot-wide ROW for 0.9 mile, remaining north of the CHSP boundary, then turning northeast for approximately 0.4 mile, still within the new 300-foot-wide ROW, to a new 500-kV gas-insulated switching station. This portion of the Route 4C Modified Alternative, from the point it diverges from Segment 8A, would be approximately 5.2 miles long. Existing transmission lines within and near Chino Hills State Park would also be removed and re-routed as part of this alternative. Habitats occurring within Route 4C Modified are listed in Table 2-15a below. As described above, these habitats also occur within the proposed Project and are described in detail in Appendix H. Approximately 12 unnamed drainages and small tributaries would be crossed by Route C Modified.

Habitat Type	Acres	Percentage of Total Acreage
Mixed Chaparral	378.48	33.59%
California Annual Grassland	306.48	27.20%
Coastal Sage Scrub	129.24	11.47%
Coast Live Oak Woodland	121.79	10.81%

Table 2-15a. Vegetation Types Occurring in the Alternative 4C Modified Re-Route

Habitat Type	Acres	Percentage of Total Acreage
California Walnut Woodland	67.91	6.03%
Mixed Chaparral, Recently Burned	54.01	4.79%
Disturbed/Developed	34.1	3.03%
Southern Coast Live Oak Riparian Forest	23.17	2.06%
Bunchgrass Grassland	5.22	0.46%
Chamise Chaparral	4.19	0.37%
Mule Fat Scrub	1.35	0.12%
Ruderal Grassland	0.58	0.05%
Southern Sycamore Alder Riparian Woodland	0.28	0.02%
Southern Arroyo Willow Riparian Forest	0.01	0.00%
Total	1126.81	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 2-16 below. As described above, these habitats also occur within the proposed Project and are described in detail in Appendix H. Aliso Creek and approximately 28 unnamed drainages and small tributaries would be crossed by Route D.

Table 2-16. 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%
Total	1179.59	100%

2.6 Alternative 5: Partial Underground Alternative

As described in Section 1.2.5, 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).

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 2-17 lists the vegetation communities in the area of the underground portion of Alternative 5.

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%

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 of the EIR/EIS. 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, many wildlife species are dependent upon riparian conservation areas (RCAs) (a limiting resource on the ANF) for foraging, breeding and movement corridors. This alternative reduces the number of RCAs impacted by this project by reducing the amount of roads and therefore ground disturbance. Additionally, 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. Vegetation communities occurring in the Alternative 6 project area in the Central Region are listed in Table 2-18 below.

Table 2-18. Vegetation Types Occurring in Alternative 6

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 (Plantation)	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%
Total	6481.10	100.00%

This alternative would require thirteen helicopter staging and landing areas ranging in size from two acres to over four acres (Figure 2.6-1 of the EIR/EIS). 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. 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, oaks, and possibly other 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.

Due to the weight capacities and fuel limitations for the helicopters that would be used under this alternative, it is assumed that 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 some access and most spur roads associated with these tower locations that would be required under SCE's proposed Project (Alternative 2) would not occur.

Reconnaissance surveys of the thirteen potential helicopter staging sites were conducted on 14, 15, and 28 July, and 30 September, 2008, and May, 2009. Focused surveys for rare plants were conducted 11 through 17 July, 2008. The results of these surveys are described below.

SITE 1

Two habitat types are present on this site. The northern half consists of intermediate to dense chamise chaparral with chamise (*Adenostoma fasciculata*) interspersed with California juniper (*Juniperus californica*). The shrub layer beneath is primarily dominated by narrowleaf goldenbush (*Ericameria linearifolia*), Cooper's goldenbush (*E. cooperi*), and California buckwheat (*Eriogonum fasciculatum*). Herbaceous cover consists of grasses and forbs such as desert needlegrass (*Achnatherum speciosum*), fine flowered gilia (*Gilia leptantha*), perennial woollystar (*Eriastrum densifolium*), and Bailey's buckwheat (*E. baileyi*). Two populations of short-joint beaver tail cactus (*Opuntia basilaris* var. *brachyclada*; CNPS list 1B.2 and FS Sensitive species) are present within this habitat in the northern portion. The southern portion of the site is classified as post-fire chamise chaparral and is dominated by common deerweed (*Lotus scoparius*) and non-native tumbling mustard (*Sisymbrium altissimum*) interspersed with California buckwheat. Chamise is crown sprouting in some areas. While suitable for short-joint beaver tail cactus, Site 1 is poor quality habitat for other special-status plant species in the region due to the high density of successional weedy species.

The probable helicopter routes from this site would not cross unique habitats for wildlife. Bird species observed on this site during the survey include mourning dove (*Zenaida macroura*) and western kingbird (*Tyrannus verticalis*).

SITE 2

Site 2 is composed of post-fire chamise chaparral dominated by weedy successional species, such as common deerweed, tumbling mustard, and thick leaf yerba santa (*Eriodictyon crassifolium*). The majority of the site was surveyed in late April under Impact Area 5 for Segment 11. No special-status plant species were observed at that time, and none were observed during this resurvey. Habitat conditions for special-status species on this site are poor due to its successional state. The abundance of weedy species such as tumbling mustard limits the potential for the occurrence of annual special-status plants. Perennial special-status species such as short joint beavertail cactus were not detected.

The probable helicopter routes from this site would not cross unique habitats for wildlife. Bird species observed on this site during the survey include red-tailed hawk, mourning dove, and western kingbird.

SITE 3

Chamise and mixed chaparral comprise this site. Most of the impact area occurs within dense chamise chaparral, with chamise forming the dominant vegetation layer interspersed with big berry manzanita (*Arctostaphylos glauca*). A small mixed chaparral assemblage occurs at the west end of the impact area. This more mesic habitat occurs at the base of an incised drainage that runs east to west through the impact area, terminating on the northern border of Aliso Canyon Wash. Observed species include mountain mahogany (*Cercocarpus betuloides*), holly-leaved cherry (*Prunus ilicifolia*), big sagebrush (*A. tridentata*), and chamise. The site contains 14 populations of 52 individual clumps of short-joint beaver tail cactus. It is unlikely that the dense chamise and mixed chaparral present on the site would provide suitable habitat for any annual special-status species. The overstory of chaparral species is too dense to support annual special-status species that typically require more open habitat with less competition.

Riparian habitat occurs near site. Bird species observed on this site during the survey include mourning dove, phainopepla, and sage sparrow (*Amphispiza belli canescens*). An “anabat” recording device that was placed approximately 300 yards northwest of the site the night of 14 July 2008 did not record bats. Five pallid bats (*Antrozous pallidus*), a California Species of Special Concern and FS Sensitive Species, were located in artificial “bat houses” under a bridge about 325 yards northwest of the site; however, roosting habitat for this and other bat species was absent from the site.

SITE 4

Site 4 is located on the peak of Mount Gleason just north of ANF Road 3N17, west of its junction with ANF Road 3N32. Several structures are shown on the site and it is labeled a “Military Reservation” on the USGS Acton 7½-minute topographic map (1959). Most of those structures have been removed and the site appears to have been replanted with native pines and seeded with a variety of native herbs. A large water tank maintained by the County Fire Department is also present. Undisturbed native mixed chaparral occurs on the south-facing slope below the replanted military reservation. Vegetation around the eastern and northern margins of the site supports ponderosa pine forest. Other species noted in the area include incense cedar (*Calocedrus decurrens*), Ponderosa pine (*Pinus ponderosa*), curleaf rabbitbrush (*C. viscidiflorus* ssp. *viscidiflorus*), and chaparral aster (*Lessingia filaginifolia*). Several species of buckwheat were also present and include wand buckwheat (*E. elongatum*), California buckwheat (*E. fasciculatum*), naked-stemmed buckwheat (*E. nudum*), Wright's buckwheat (*E. wrightii* ssp. *subscaposum*), and the colorful Sulfur buckwheat (*E. umbellatum*). Wheat grass (*Elytrigia* sp. [*Agropyron* sp.]), likely planted as an erosion control measure was also present.

Mt. Gleason Indian paintbrush (*Castilleja gleasonii*), a State Rare and Forest Service Sensitive species, was observed adjacent to the site. In addition, an unidentified lupine that could be Peirson's lupine (*Lupinus peirsonii*; CNPS List 1B.3), was observed at the site; however, positive identification could not be confirmed during the time of year that the survey took place (30 September 2008). Other special status plants potentially occurring on-site or along the access route include: San Gabriel Mountain manzanita (*A. gabrielensis*), Plummer's mariposa lily (*Calochortus plummerae*), Crested milk vetch (*Astragalus bicristatus*), San Antonio milk vetch (*A. lentiginosus* var. *antoniuss*), San Gabriel linanthus (*Linanthus concinnus*), Hall's monardella (*Monardella macrantha* ssp. *hallii*), rock monardella (*Monardella viridis* ssp. *saxicola*), Baja navarretia (*Navarretia peninsularis*), Rock Creek broomrape (*Orobanche valida* ssp. *valida*), pine green-gentian (*Swertia neglecta*), and Laguna Mountains jewel-flower (*Streptanthus bernardinus*).

Helicopter flight paths would likely cross suitable habitat for California spotted owl (*Strix occidentalis occidentalis*), a California Species of Special Concern and FS Sensitive species. A protected activity center (PAC) for spotted owls has been delineated between the proposed helipad and the tower alignment. This PAC is northwest of the site and encompasses parts of the alignment. A spotted owl PAC consists of the first 300 acres of the most highly ranked habitat containing or adjacent to a known spotted owl nest (USDA, 2004).

SITE 5

This site is characterized by mixed chaparral and Coulter pine forest. Dense mixed chaparral dominates this site and consists of chamise and big berry manzanita interspersed with chaparral yucca and hoary leaf ceanothus (*Ceanothus crassifolius*). Coulter pine forest is also a large element of this site and includes an understory of chamise and big berry manzanita. Fourteen individual shrubs of San Gabriel manzanita were observed along the northern and eastern boundary of the site. Habitat at the site is generally not suitable to support most other FS Sensitive plant species. However, one species which could occur is Lemmon's syntrichopappus (*Syntrichopappus lemmonii*; CNPS 4.3, FS Watch List). Suitable sandy soils are present, and

the species was past its blooming period and would have been undetectable at the time of the survey. Focused surveys during the appropriate blooming period (April and May) are necessary to determine presence or absence of this species. Large trees could provide nesting opportunities for raptors on and adjacent to the site. Bird species observed on this site during the survey include mourning dove, western scrub-jay (*Aphelocoma californica*), common raven, mountain chickadee, spotted towhee, and dark-eyed junco. Access would be provided via a new temporary spur road from Forest Road 4N18, which would be temporarily restricted during helicopter operations.

SITE 6

This site is characterized by mixed chaparral and Coulter pine forest. Mixed chaparral consisting of chamise and hoary leaf ceanothus with interspersed big berry manzanita are the dominant plants at this site. A population of San Gabriel Manzanita, a FS Sensitive plant, occurs along the margins of a drainage channel that runs in an east-west direction in the northern portion of the site. In addition to mixed chaparral, two stands of Coulter pine forest occur on the site. Adjacent species include stands of rabbitbrush, chamise, and in the southern stand, San Gabriel manzanita. The understory within both habitat types is sparse and consists of scarlet bugler, Grinnell's beardtongue (*P. grinnellii*), pointed cryptantha (*C. muricata*), and prickly phlox (*Leptodactylon californica*). A population of Plummer's mariposa lily (*C. plummerae*; CNPS list 1B.2, FS Sensitive species) was found along the margins of Big Tujunga Creek adjacent to the site. Lemmon's syntrichopappus (CNPS 4.3, FS Watch List) may also occur. Focused surveys during the appropriate blooming period (April and May) are necessary to determine presence or absence of this species. It is unlikely that any additional special-status species would occur on the site due either to lack of microhabitat requirements and/or distance from known distribution and elevation ranges. Any perennial, bulb forming, or summer blooming annual special-status species present would likely have been detected during focused surveys that occurred on 14 July 2008.

There are some nesting opportunities for raptors, including the riparian habitat on and adjacent to the site. The expected flight paths also lack an abundance of nesting opportunities, as the Coulter pine there are too small and sparse. The helipad site, adjacent riparian habitat, and adjacent rock wall are poor habitat for bats.

Bird species observed on this site during the surveys include the California quail, Anna's hummingbird (*Calypte anna*), black-chinned hummingbird (*Archilochus alexandri*), Nuttall's woodpecker (*Picoides nuttallii*), downy woodpecker (*Picoides pubescens*), northern flicker (*Colaptes auratus*), ash-throated flycatcher (*Myiarchus cinerascens*), western scrub-jay, common raven, wrenit (*Chamaea fasciata*), orange-crowned warbler (*Vermivora celata*), yellow-breasted chat (*Icteria virens*, California Species of Special Concern), western tanager (*Piranga ludoviciana*), California towhee (*Pipilo crissalis*), sage sparrow (subspecies *canescens*), black-headed grosbeak (*Pheucticus melanocephalus*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*).

Reptile species observed on the site during the surveys include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and San Diego horned lizard (*Phrynosoma coronatum blainvillii*, California Species of Special Concern and FS Sensitive species).

Access provided via Upper Big Tujunga Canyon Road, which would be temporarily restricted during helicopter operations. After improvements, the site would connect with Upper Big Tujunga Canyon Road via a new access road.

SITE 7

Site 7 is the same location as SCE #6B described under the proposed Project.

SITE 8

Site 8 is the same location as SCE #3B described under the proposed Project.

SITE 9

Site 9 is the same location as SCE #7 described under the proposed Project.

SITE 10

Barren/developed areas, mixed chaparral, and big cone Douglas fir-canyon oak forest characterize the habitat at this site. Spanish broom, a noxious weed, and non-native plantings such as rosemary (*Rosmarinus officinalis*), eucalyptus (*Eucalyptus* sp.), and cypress (*Cupressus* sp.) dominate the barren/developed areas, which encompasses approximately 90 percent of the site. Native species include several Coulter pine and big cone Douglas fir, hairy yerba santa, and chamise. The slopes surrounding the site consist of mixed chaparral and canyon oak forest. The canyon oak forest is restricted to the north and east slopes and is dominated by canyon oak and interior live oak. Observed dominants within mixed chaparral include chamise, hoary leaf ceanothus, chaparral yucca, and laurel sumac (*Malosma laurina*). In addition, several sporadic big cone Douglas fir were observed within this habitat. A small patch of big cone Douglas firs occurs near the intersection of Angeles Forest Highway and the unnamed road leading to the graded area. Special-status plant species were not detected.

Bird species observed on the site include Anna's hummingbird, western scrub-jay, common raven, and Bewick's wren (*Thryomanes bewickii*). Reptile species observed on the site include the side-blotched lizard and the southern pacific rattlesnake (*Crotalus viridis helleri*).

SITE 11

Site 11 is the same location as SCE #8 described under the proposed Project.

Site 12

Site 12 is located on NFS lands about 0.75 air miles northeast of Mill Creek Summit, off Angeles Forest Highway. The site is an open graded road turnout surrounded by native vegetation. Much of the site is open with very little vegetative cover. The vegetation that does occur within the project site includes non-native annual grasses and some native annuals and perennial herbs such as suncups (*Camissonia* sp.) and perennial woollystar (*Eriastrum densifolium* subsp. *elongatum*). The fill slope beneath the turnout is covered by rabbitbrush scrub dominated by rabbitbrush (*Chrysothamnus nauseosus*) and, at lesser cover, big sagebrush (*Artemisia tridentata*). Just beneath this slope, the adjacent undisturbed soils are covered by chaparral. Chaparral is also present on the upslope side of the site, across Angeles Forest Highway. The chaparral in both of these areas is dominated by chamise, intermixed with bigberry manzanita and interior live oak.

There is no natural habitat and minimal potential for special-status species to occur in the turnout area, but the surrounding natural vegetation has potential to provide habitat for several special-status plants, including San Gabriel manzanita (*Arctostaphylos gabrielensis*), Plummer's mariposa lily (*Calochortus plummerae*), Mount Gleason Indian paintbrush (*Castilleja gleasonii*), San Gabriel Mountains sunflower (*Hulsea vestita* subsp.

gabrielensis), short-jointed beavertail cactus (*Opuntia basilaris* var. *brachyclada*), chickweed oxytheca (*Oxytheca caryophylloides*), Transverse Range phacelia (*Phacelia exilis*), and Lemmon's syntrichopappus (*Syntrichopappus lemmonii*).

Site 13

Site 13 is located on NFS lands just southeast of the Mill Creek Summit off ANF Road 3N17.4, about 0.75 road miles from the junction with Angeles Forest Highway. The site is an open graded FS helipad. The helipad has very scarce cover of non-native annual grasses surrounded by native vegetation. Vegetation on Site 13 includes non-native annual grasses and some native herbs such as perennial woollystar and sandaster (*Corethrogyne filaginifolia*). Most of the surrounding vegetation is chaparral dominated by chamise, San Gabriel manzanita (*Arctostaphylos gabrielensis*), chaparral whitethorn (*Ceanothus leucodermis*) and desert ceanothus (*Ceanothus greggii*). There also is a Coulter pine (*Pinus coulteri*) plantation adjacent to the site.

San Gabriel manzanita is a CNPS list 1B.2 and FS Sensitive plant. It was observed immediately adjacent to the helipad. There is no natural habitat and minimal potential for special-status species to occur on the helipad site, but the surrounding natural vegetation has potential to provide habitat for several special-status plants, including Plummer's mariposa lily, Mount Gleason Indian paintbrush, San Gabriel Mountains sunflower, short-jointed beavertail cactus, chickweed oxytheca, Transverse Range phacelia, and Lemmon's syntrichopappus.

2.8 Alternative 7: 66-kV Subtransmission Alternative

As described in Section 2.7, this alternative is comprised of four 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 existing 66-kV subtransmission line through the Whittier Narrows Recreation Area in Segment 7 (S7 MP 12.0 to 13.6) immediately north of the existing 220-kV ROW to reduce the number of structures required (20-foot expanded ROW required). The fourth 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. This element includes two options. For Option 1, the 66-kV lines would continue for approximately 700 feet southeast across Durfee Avenue and then continue approximately 2,100 feet southeast along Siphon Road to the San Gabriel River. New ROW, approximately 1,600-foot long and 60-foot wide, would be required to cross from the existing 66-kV ROW on the west side of the San Gabriel River to the existing 220-kV ROW located on the east side of the San Gabriel River, thereby allowing the new 66-kV lines to tie back into the 66-kV lines within the Project ROW. In Segment 8A, the two 66-kV lines would transition within the existing ROW to underground for approximately 200 feet across the width of the ROW from the south side and then rise up on the north side of the ROW to join the existing lines.

For Option 2, the 66-kV lines would continue west along the north side of Durfee Avenue for approximately 1,700 feet, re-entering the existing 220-kV ROW at approximately S8A MP 3.2. The 66-kV lines would continue southeast along the south side of the existing 220-kV ROW up to the east side of the San Gabriel River. A 20-foot expansion of the existing ROW between S8A MP 3.2 and 3.8 would be required to provide adequate clearance for conductor sway between the 66-kV lines and the new double-circuit 500-kV structures within the ROW and allow for one-of-one placement of the 66-kV TSPs alongside the new double-circuit 500-

kV structures. Option 2 would result in fewer 66-kV structures within the existing 220-kV ROW than Alternative 2.

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 outside of the existing 220-kV ROW are listed in Table 2-19 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%
Landscaped Park	1.63	0.32%
Ruderal Wetland	1.30	0.26%
Coast Live Oak Woodland	0.125	0.02%
Total	502.33	100%