8. Alternative 4 (Chino Hills Routes): Impacts and Mitigation Measures

The following section describes impacts of Alternative 4 (Chino Hills Routes) on Biological Resources, as determined by the significance criteria listed in Section 4. Mitigation measures are introduced where necessary in order to reduce significant impacts to less-than-significant levels. As described in Section 1.2.4, this alternative is identical to the proposed Project for all Segments except Segments 8A and 8C. 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. The route would deviate from the proposed Project beginning approximately 0.6 mile east of Tonner Canyon Road or 2 miles east of State Route 57 along Segment 8A. The proposed routes for Alternative 4 would cross through parts of Orange County, which the proposed Project (Alternative 2) would not enter, and San Bernardino County. The routing options for Alternative 4 would also cross through the Chino Hills State Park (CHSP). The five different routing options (Routes A through D and 4C Modified) which are included under Alternative 4 are discussed in further detail below.

Route A

This alternative would deviate from the proposed Project route 0.6 mi east of Tonner Canyon Road along Segment 8A and run parallel to the existing Walnut/Olinda-Mira Loma 220-kV transmission line for 6.2 miles, 2.3 miles of which would be within the CHSP. Route A would be situated within an existing utility corridor, but would require that the corridor be widened by 150 feet along the length of Route A. In addition, Route A would require the installation of a new switching station within the CHSP. The size of the new switching station would be approximately 5 acres in size.

Route B

The proposed Route B would follow the same path as Route A into CHSP but would continue to just beyond the eastern Park boundary and terminate at a new switching station immediately outside of the CHSP. As with the Route A alternative, the new switching station for Route B would be approximately 5 acres in size. Route B would travel through CHSP for approximately 4.6 miles. Approximately 150 feet of additional ROW would be required to accommodate the new 500-kV double-circuit structures along the re-routed portion of this alternative.

Route C

The proposed Route C alternative would follow the same path as Routes A and B up to the CHSP boundary. At this point, the alternative route would turn east along a new approximately 300-foot-wide ROW for approximately 1.8 miles, which would remain just north of the CHSP boundary, to a new 500-kV gas-insulated switching station. Approximately 3.6 miles of new ROW would be required to re-route the existing single-circuit 500-kV T/Ls in and out of the new switching station. The new north-south re-route into the switching station (1.6 miles within CHSP) would require an approximately 330-foot wide ROW. The new east-west re-route beginning at the switching station and proceeding north and east around raptor ridge (2.0 miles, of which 1.7 miles is within CHSP) would require an approximately 480-foot wide ROW. Proposed Route C would also require the removal of existing transmission lines from

within the CHSP. The proposed switching station for Route C would be located immediately north of Raptor Ridge and adjacent to Southern sycamore and coast live oak riparian forest.

Route C Modified

Route C 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 C 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. Route C Modified would require approximately 150 feet of new ROW along a 3.6-mile section to accommodate the new 500-kV double-circuit lines. Approximately 0.2 mile north of the CHSP boundary, Route C Modified would turn east within a new 225-foot-wide ROW for 0.7 mile, remaining north of the CHSP boundary, then turning northeast for approximately 0.4 mile, still within the new 225-foot-wide ROW, to a new 500-kV gas-insulated switching station. This route would also require the removal of existing transmission lines from within CHSP.

Route D

The proposed Route D alternative would follow the same path as Route C but would follow the northern boundary of CHSP for approximately 4.0 miles before crossing through the northeastern corner of the CHSP for approximately 1.4 miles. At this point, the new 500-kV T/L would turn northeast again parallel and north of the existing T/Ls for approximately 0.5 mile (outside CHSP) before terminating at a new 500-kV gas-insulated switching station located outside of CHSP. The proposed switching station for Route D would be the same size (approximately 5 acres) and in the same location as that proposed for Route B.

8.1 Direct and Indirect Effects Analysis

The significance criteria used to identify impacts to Biological Resources are introduced in Section 4.1 (Criteria for Determining Impact Significance). Impacts associated with this alternative are presented below under the applicable significance criterion. Differences in the impacts associated with routing options of Alternative 4 are described as appropriate. If no individual route will result in a significant increase or decrease of impacts to biological resources over other routes, a separate route-specific discussion is not provided.

In general, construction activities would be greater under Alternative 4 because these would be occurring in undeveloped areas; therefore, presumably more roads would need to be widened and added to access the transmission line, staging, and pulling areas. Numerous existing roads likely to be used or improved include Sanome Motorway, and Carbon Canyon Road on the western end of Alt 4, Soquel Canyon Road and Ferree Street along a riparian corridor in the middle, and others such as Telegraph Canyon Road, Bane Canyon Road, and several unnamed dirt roads that cross or run adjacent to riparian areas in Alt 4 ROW. Riparian birds and other riparian obligate species likely use these drainages especially since they are not near human development. Although most of the vegetation in the immediate vicinity of the transmission line is California annual grassland and mixed chaparral, the network of drainages that cross

the Project area contain southern coast live oak riparian forest, southern sycamore alder riparian woodland, southern willow scrub, and southern cottonwood willow riparian habitat.

Impacts to Riparian or Natural Communities (Criterion BIO1)

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

Alternative 4 follows the same route as the proposed Project, but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Alternative 4 traverses similar habitats as the proposed Project but also crosses two new habitats (Mixed Chaparral Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub), and comprises a net increase in the size and magnitude of direct and indirect impacts to native vegetation as a result of increased construction activity in undeveloped areas. These impacts will result in the direct removal of plants during the course of construction, clearing and grading associated with the placement of additional larger towers and the creation of new ROW and expansion of existing ROW, the loss of native seed banks, and changes to the topography and drainage of a site such that the capability of the habitat to support native vegetation is impaired. Furthermore, construction may also facilitate conditions favorable for the establishment of exotic weeds that prevent the establishment of desirable vegetation (see Impact B-3 below). Land disturbance associated with the re-routed portions of this alternative would be approximately 96.9 acres for Route A, 124.5 acres for Route B, 153.5 acres for Route C, 132.7 acres for Route 4C Modified, and 134.1 acres for Route D. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

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

Alternative 4 traverses similar riparian habitats as the proposed Project, and, compared to the proposed Project, would result in similar types of impacts but comprises a net increase in the size and magnitude of direct and indirect impacts to riparian habitat as a result of increased construction activities in undeveloped areas. These activities include the removal of additional towers, clearing of additional staging and pulling areas, and additional improvements to existing roads as well as construction of new roads that would be necessary for increased construction activities. Direct impacts to desert wash and riparian habitat would include the temporary disturbance and permanent removal of native vegetation within these communities. Indirect impacts to these communities would be similar to those discussed for native vegetation communities (Impact B-1), above. These would include increased sediment transport, alterations to existing topographical and hydrological conditions, fugitive dust accumulation, and the introduction of non-native, invasive plant species. However, implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

> ***Route A.*** Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route A of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted

include Little Chino Creek and Chino Creek. However, Route A may affect Aliso Creek and 11 unnamed stream crossings with riparian habitat. No riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route A, would be less than significant (Class II).

Route B. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route B of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek and Chino Creek. However, Route B may affect Aliso Creek and 19 unnamed stream crossings with riparian habitat. Approximately 0.18 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route B, would be less than significant (Class II).

Route C. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route C of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek and Chino Creek. However, Route C may affect Aliso Creek and 10 new unnamed stream crossings with riparian habitat. Approximately 1.08 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route C, would be less than significant (Class II).

Route C Modified. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route C Modified of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek and Chino Creek. However, Route C Modified may affect 12 new unnamed stream crossings potentially supporting riparian habitat. No riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation measures listed above, impacts to riparian habitat for Alternative 4, Route C Modified, would be less than significant (Class II)

Route D. Several streams containing riparian habitat may be affected by the proposed Project but would not be affected by Route D of Alternative 4. In addition to the unnamed streams that would be avoided, the named streams and associated riparian habitat that would no longer be impacted include Little Chino Creek and Chino Creek. However, Route D may affect Aliso Creek and 28 new unnamed stream crossings with riparian habitat. Approximately 0.76 acre of riparian habitat would be impacted by tower placement, but impacts to riparian habitat due to construction of new roads and other disturbances that would be quantified during final engineering could also occur. These areas of disturbance are unknown at this time. With implementation of the mitigation

measures listed above, impacts to riparian habitat for Alternative 4, Route D, would be less than significant (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, Alternative 4 would facilitate a net increase in the establishment and spread of noxious weeds as a result of increased construction activity in undeveloped areas. Activities of the alternative that would facilitate noxious weed establishment include the removal of additional towers, construction of new towers, clearing of additional staging and pulling areas, and additional improvements to existing roads as well as construction of new roads that will be necessary for increased construction activities. The potential introduction or spread of noxious and invasive weeds would occur primarily during construction activities, but this impact would continue during operation and maintenance phases. The introduction of noxious and invasive weeds would be related to ground disturbance from clearing and grading; road maintenance; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or wattles that contain seeds of non-native plant species; and enhanced public access to the project corridor during and after construction. Additionally, weed seeds stuck to equipment or clothing are often spread to new areas by construction or maintenance personnel. Implementation of Alternative 4 would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to be carried into areas that previously were isolated from sources of noxious weed seeds. However, implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan, B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) would reduce impacts to less than significant (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned; Mexican Elderberry/Giant Wild Rye Scrub) and, compared to the proposed Project, would result in similar types of impacts but comprises a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased construction activities in undeveloped areas. These activities include increased clearing, grading, and tower construction in undisturbed portions of CHSP. Direct impacts to wildlife associated with construction of the proposed Project would include mortality from trampling or crushing; increased noise levels due to heavy equipment and helicopter use; increased vehicular and human presence along existing access roads and riparian areas; displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions; fugitive dust; and increased erosion and sediment transport. Indirect effects to wildlife as a result of the proposed Project include the introduction of non-native, invasive plant species, alterations to existing hydrological conditions, and exposure to contaminants. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement

an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub) and could potentially result in disturbance to nesting bird species that are restricted to these habitats. Compared to the proposed Project, this alternative would result in similar types of impacts but would result in a net increase in the size and magnitude of direct and indirect impacts to nesting birds associated with increased ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in undeveloped areas of the Chino Hills. Direct impacts to nesting birds or raptors as a result of construction activities for the proposed Project could include the removal or disturbance of vegetation that supports nesting birds, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. These factors could result in the disruption of breeding activity, and subsequent nest failure. However, the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. As noted in Impact B-1, this alternative impacts two new habitats for wildlife, including Mixed Chaparral, Recently Burned and Mexican Elderberry/Giant Wild Rye Scrub, which could provide suitable foraging habitat for a variety of wildlife species. Compared to the proposed Project, Alternative 4 would result in similar types of impacts but would comprise a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity, including tower pad preparation and construction and grading of new access roads. Direct impacts would include the permanent removal and temporary disturbance of vegetation communities utilized as foraging habitat for both common and special-status wildlife, fugitive dust, and increased noise levels due to heavy equipment and helicopter operations occurring in these areas. Indirect impacts to foraging habitat could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weed colonies. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) would reduce impacts to less than significant (Class II).

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

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats (Mixed Chaparral, Recently Burned; Mexican Elderberry/Giant Wild Rye Scrub) that may contain endangered, threatened, or proposed plant species, and, compared to the proposed Project, comprises a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas. Direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower pad preparation, clearing helicopter staging areas, and the construction, grading, and widening of new spur roads and existing access roads. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. However, the implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-7 (Conduct protocol surveys for rare plants and avoid populations of listed plants), and H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) would reduce impacts to endangered, threatened, and proposed plant species to less-than-significant levels (Class II). Take of federally and/or State-listed plant species through direct mortality or the loss of occupied habitat would only be authorized in the context of a Biological Opinion issued by the FWS and/or an Incidental Take Authorization from CDFG.

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

Take of these federally and/or State-listed species through direct mortality or the loss of occupied habitat would only be authorized in the context of a Biological Opinion issued by the USFWS and/or an Incidental Take Authorization from CDFG. Each route of Alternative 4 would result in the additional loss of undeveloped habitat (including riparian) within the Chino Hills. However, these added impacts would not reduce populations of California red-legged frogs and mountain yellow-legged frogs because this portion of the Project is outside the occupied range of these species. Therefore, impacts to these species associated with this alternative would be identical to the proposed Project. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) would reduce potential impacts to these species to a less-than-significant level (Class II).

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

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not reduce suitable habitat for the arroyo toad because this portion of the Project is outside the known range of this species. Therefore, impacts to arroyo toads associated with this alternative would be identical to the proposed Project. APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring) are proposed to offset impacts to this species. These measures include, but are not limited to, avoiding the peak breeding period, the placement of exclusion fencing if animals are present, implementation of a capture and release program, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

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

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not take place within the range of the desert tortoise and would not result in additional impacts to this species. Therefore, impacts to desert tortoises associated with this alternative would be identical to the proposed Project. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct protocol surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

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

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not take place within the range of the desert tortoise and would not require mitigation because nest sites for common raven are not expected to increase appreciably as a result of tower construction. Therefore, populations of common ravens, and their predation pressure on the desert tortoise, are not expected to result from additional towers, and impacts would be less than significant (Class III).

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

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas, the Santa Ana speckled dace and unarmored threespine stickleback do not occur within the Chino Hills and would not be affected by re-

routes associated with Alternative 4. As the distribution of Santa Ana suckers and arroyo chubs is limited to the Aliso Creek watershed within Alternative 4, which comprises many seasonal drainages, construction activities associated with Alternative 4 could result in injury or mortality to these species, if present. If special-status fish species are present, direct impacts could include mortality due to crushing by heavy equipment and vehicles and water quality degradation caused by increased sedimentation, erosion, or accidental chemical spills. Indirect impacts could include loss of suitable breeding and spawning habitat, removal of riparian and aquatic vegetation, and decreased water quality due to sedimentation and erosion. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce these impacts to less-than-significant levels (Class II).

Impact B-13: The Project could result in the loss of Critical Habitat for the Santa Ana Sucker.

Critical habitat for the Santa Ana sucker does not occur in the area of the Alternative 4 re-routes. Therefore, impacts to critical habitat for this species would be exactly the same as described for the proposed Project. Mitigation measures have been identified that would minimize impacts to Santa Ana sucker critical habitat. These measures include Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). Implementation of these measures would reduce impacts to Santa Ana sucker critical habitat to less than significant (Class II).

Impact B-14: The Project could result in the loss of California condor.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative impacts two new habitats and, compared to the proposed Project, would result in similar types of impacts but comprises a net increase in the size and magnitude of direct and indirect impacts associated with additional road grading and tower construction, increased construction debris, litter, leaking equipment, and increased vehicle traffic resulting in road kills. In addition, this alternative would introduce 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), 4.7 (Route 4C Modified), or 9.8 (Route D) miles of new transmission line in and around Chino Hills State Park. However, these impacts would occur outside of the known range of the California condor. Therefore, impacts associated with this alternative would be identical to those described for the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-8b (Conduct biological monitoring), and B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would avoid or mitigate

take, including the loss of habitat and the potential for micro-trash ingestion, and reduce impacts to this species to less-than-significant levels (Class II). Project actions that result in the take of this species would only be authorized through the context of a Biological Opinion from the FWS.

Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat as a result of additional road grading and tower construction immediately adjacent to riparian habitats. Construction and removal of towers would impact no riparian habitat for Routes A or C Modified, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. Direct impacts to southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads and altered hydrology. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Increased construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, which would constitute take. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct pre-construction surveys and monitoring for breeding birds), Mitigation Measure B-15 (Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to these species to less-than-significant levels (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. There are two recent CNDDB records (1992, 2002) of coastal California gnatcatchers within one mile of Alternative 4. Additionally, one individual was observed in Powder Canyon approximately 1,000 feet from the ROW during surveys for the Alternative 4 re-routes. Habitat in the area where the bird was sighted is contiguous with habitat crossed by the re-routes. Compared to the proposed Project, this alternative would result in similar types of impacts but would result in a net increase in the size and magnitude of direct and indirect impacts to coastal California gnatcatchers as a result of additional ground-disturbing activity. Construction impacts include tower pad preparation and assembly and grading of new ROW and access roads within the Chino Hills. The removal of habitat in these areas during the breeding season would likely result in the

displacement of breeding birds and the abandonment of active nests. Noise from construction, which would occur in many sections of the Chino Hills, could also adversely affect nesting birds, including gnatcatchers. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take. However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

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

Construction activities, including the installation of permanent structures and/or roads, would result in the loss of critical habitat on Segments 7 and 8. Alternative 4 would result in a similar loss of Coastal Sage Scrub along Segment 8A relative to the proposed Project. Some of this may be occupied habitat for the coastal California gnatcatcher. Take of this federally and State-listed species through loss of occupied habitat and/or modification of designated critical habitat would only be authorized in the context of a Biological Opinion issued by the FWS.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative approaches within varying distances of critical habitat in the CHSP area, and Routes C and C Modified are located partially within critical habitat. Route C would result in approximately 11 acres of disturbance along 1.9 miles within designated critical habitat. Route C Modified would result in approximately 4.9 acres of disturbance along 1.1 miles within designated critical habitat. Impacts to critical and/or occupied habitat for this species are similar to those described for the proposed Project (Section 6.1) and implementation of APMs BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measures B-16 and B-17 (Conduct focused surveys for coastal California gnatcatchers and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

Route A. Route A approaches within 0.3 mile of critical habitat for the coastal California gnatcatcher but does not impact critical habitat for this species. This route is within 1.0 mile of a CNDDB (1992) record for a coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. With implementation of the mitigation measures listed above, impacts to the coastal California gnatcatcher for Alternative 4, Route A, would be less than significant (Class II).

Route B. Route B approaches within 0.3 mile of critical habitat for the coastal California gnatcatcher but does not impact critical habitat for this species. This route is within 1.0 mile of a CNDDB (1992) record for a coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. With implementation of the mitigation measures listed above, impacts to the coastal California gnatcatcher for Alternative 4, Route B, would be less than significant (Class II).

Route C. Route C occurs partially within critical habitat for this species. Approximately 1.9 miles of transmission line would occur within critical habitat, and construction/removal of 13 structures would occur resulting in approximately 11.1 acres of disturbance to California gnatcatcher critical

habitat. This route is within 1.3 miles of a CNDDB record for coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. However, with implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route C, would be less than significant (Class II).

Route C Modified. Route C Modified occurs partially within critical habitat for this species. Approximately 1.1 miles of new transmission line would occur within critical habitat, and construction of four structures would occur resulting in approximately 4.9 acres of disturbance to California gnatcatcher critical habitat. However, approximately 0.9 mile of 500-kV transmission line would be removed from critical habitat. Specifically, three 500-kV structures would be removed, resulting in approximately 0.8 acre of temporary disturbance that would be restored upon completion of line removal activities. This route is within 1.2 miles of a CNDDB record for coastal California gnatcatcher in CHSP immediately south of Telegraph Canyon. However, with implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route C Modified, would be less than significant (Class II).

Route D. Route D approaches within 0.6 mile of critical habitat for coastal California gnatcatcher but does not impact critical habitat for this species. Route D approaches within 0.4 mile of a CNDDB record (2002) for coastal California gnatcatcher immediately east of Bane Canyon on the edge of CHSP. Another CNDDB record for this species occurs within 1.3 miles of Route D near Telegraph Canyon in CHSP. With implementation of the mitigation measures listed above, impacts to coastal California gnatcatcher for Alternative 4, Route D, would be less than significant (Class II).

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

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas compared to the proposed Project, these added impacts would not increase disturbance of nesting Swainson's hawks because Alternative 4 is outside of the breeding range for this species. Therefore, impacts to this species are identical to those described for the proposed Project (Section 6.1) and implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in a net decrease, compared to the proposed Project, in marginal foraging habitat for Swainson's hawks as a result of tower pad assembly, grading of new access roads, and construction of a new switching station within grasslands of the Chino Hills. Therefore, impacts to this species are incrementally greater than those described for the proposed Project (Section 6.1) but would be reduced to a less-than-significant level (Class II) with the implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in incremental increases in the frequency of electrocution of State and/or federally protected birds as the distance of transmission lines that occur within natural habitats are greater along Alternative 4 than the proposed Project. However, implementation of APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) would occur. Because of the long duration of the construction phase of the proposed Project, APLIC may update the guidelines during this time frame. Therefore, SCE shall use the most recent APLIC guidelines for protection of raptors on power lines. These measures would reduce impacts to less than significant (Class III).

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

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in incremental increases in the frequency of collisions of State and/or federally protected birds as the distance of transmission lines that occur within natural habitats are greater along Alternative 4 than the proposed Project. However, with implementation of APM BIO-9 and the incorporation of raptor safety protection into the project design (i.e. tower/conductor [lines] on NFS lands), impacts to State and/or federally protected birds resulting from transmission line collisions would be less than significant (Class III).

Impact B-22: The Project could result in disturbance to Mohave ground squirrel.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase disturbance to Mohave ground squirrels, as suitable habitat is not present for this species within the re-routed portions of Alternative 4. Therefore, impacts to this species are identical to those described for the proposed Project (Section 6.1) and implementation of APMs BIO-4 through BIO-7 and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II).

Have a substantial adverse effect on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

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

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. This Alternative would result in similar impacts as the proposed Project to candidate, FS Sensitive, or special-

status plant species, but comprise a net increase in the size and magnitude of direct and indirect impacts as a result of increased ground-disturbing activity in undeveloped areas. Three special-status plant species, Catalina mariposa lily, intermediate mariposa lily, and California walnut, were identified during surveys of the Alternative 4 re-routes. Additional species are known from the area (see Table 3.4-6, Special-Status Plants with the Potential to Occur in the Project Area). Construction-related impacts would occur due to activities including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. Direct impacts to special-status plant species would be the same as described for listed plant species (Impact B-7) and may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers or the grading of access or spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Construction on steep hill sides may also result in off-site sediment transport that may bury rare plants in adjacent habitat or alter soil conditions. Dust from road travel, grading, or other construction activities may also reduce photosynthetic capacity in plants over time or inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. As previously described for vegetation communities soil disturbance may also result in the spread of invasive plant species. However, implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), and B-23 (Preserve off-site habitat/management of existing populations of special-status plants) would reduce impacts to less than significant (Class II).

Impact B-24: The Project could result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. Impacts to southwestern pond turtles under each Alternative 4 routing option would be slightly greater in magnitude than under the proposed Project because a greater number of sites potentially occupied by southwestern pond turtles (i.e., perennial or nearly perennial aquatic habitat), including Carbon Canyon, Soquel Canyon, Telegraph Canyon, Aliso Canyon, and Bane Canyon, would be spanned or closely approached during transmission line construction under Alternative 4 than under the proposed Project. Spanning or closely approaching a greater number of sites potentially occupied by these species would increase the likelihood of impacts resulting from injury or mortality and also increase the likelihood of permanent loss of southwestern pond turtle nesting habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Construction and removal of towers would impact no riparian habitat for Routes A or C Modified, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. However, implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7, and Mitigation Measure B-1a (Provide restoration/

compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtles and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to this species to a less-than-significant level (Class II).

Impact B-25: The Project could result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.

Alternative 4 follows the same route as the proposed Project for all Segments except Segment 8A. Impacts to two-striped garter snakes and south coast garter snakes under Alternative 4 would be slightly greater in magnitude than under the proposed Project because a greater number of sites potentially occupied by these species (i.e., perennial or nearly perennial aquatic habitat), including Carbon Canyon, Soquel Canyon, Telegraph Canyon, Aliso Canyon, and Bane Canyon, would be spanned or closely approached during transmission line construction under Alternative 4 than under the proposed Project. Spanning or closely approaching a greater number of sites potentially occupied by these species would increase the likelihood of impacts resulting from injury or mortality. Construction and removal of towers would impact no riparian habitat for Routes A or C Modified, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to vegetation communities would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. However, implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for the two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to these species to a less-than-significant level (Class II).

Impact B-26: The Project could result in injury or mortality of, and loss of habitat for, Coast Range newts.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase injury or mortality of, and loss of habitat for, Coast Range newts, as suitable habitat is not present for this species within Alternative 4. Therefore, impacts are identical to the proposed Project and Implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement

monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to this species, thereby reducing impacts to a less-than-significant level (Class II).

Impact B-27: The Project could result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.

Alternative 4 follows the same route as the proposed Project for all Segments except Segments 8A and 8C. As described in Section 6.1, project-related construction activities could result in injury or mortality of 11 terrestrial California Species of Special Concern and FS Sensitive amphibian and reptile species (the special-status terrestrial herpetofauna). A subset of eight of those 11 total species has the potential to be affected under Alternative 4. These species include Western spadefoot, San Diego horned lizard, Silvery legless lizard, Orange-throated whiptail, Coastal rosy boa, San Bernardino ringneck snake, Coast patch-nosed snake, and northern red diamond rattlesnake.

For the remaining three species (i.e., the San Gabriel Mountains slender salamander, California horned lizard, and San Bernardino mountain kingsnake), which do not occur in the re-routed portions of Alternative 4, impacts are identical to the proposed Project. Impacts to the special-status terrestrial herpetofauna under each of the Alternative 4 routing options would be slightly greater in magnitude than impacts to those species under the proposed Project as a result of construction-related activities including tower pad preparation, tower removal, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during these ground-disturbing project activities in undeveloped upland habitats and in some developed areas throughout Alternative 4. Direct impacts also include being hit by vehicles on access roads; mechanical crushing during tower site preparation, grading of spur roads, and preparation of staging and stringing/pulling locations; fugitive dust; and general disturbance due to increased human activity. Furthermore, implementation of Alternative 4 may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Indirect impacts to these species include compaction of soils and the introduction of exotic plant species. However, implementation of APMs BIO-1 through BIO-7 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality to these species, thereby reducing impacts to a less-than-significant level (Class II).

Impact B-28: The Project could disturb wintering mountain plovers.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase disturbance to wintering mountain plovers as suitable habitat is not present for this species within the Alternative 4 re-routes. Therefore, impacts to wintering mountain plovers resulting from this alternative are identical to the proposed Project and are less than significant (Class III).

Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to burrowing owl as a result of increased construction activities (additional road grading and tower construction) within suitable habitats of the Chino Hills associated with Alternative 4. Direct impacts to burrowing owls as a result of construction activities for the proposed Project would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. However, implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.

While Alternative 4 would result in a net increase in the size and magnitude of direct and indirect impacts to wildlife as a result of increased ground-disturbing activity in undeveloped areas, these added impacts would not increase the loss of occupied California spotted owl habitat as suitable habitat for this species (bigcone Douglas fir-canyon oak forest and canyon oak forest) is not present in the Alternative 4 re-routes. Therefore, impacts to this species are identical to those described for the proposed Project (Section 6.1) and implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during- construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-31: The Project could disturb nesting California spotted owls.

As stated above, suitable habitat for California spotted owl (bigcone Douglas fir-canyon oak forest and canyon oak forest) is not present in the Alternative 4 re-routes. Therefore, impacts to this species are identical to those described for the proposed Project (Section 6.1) and implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during- construction nest surveys for spotted owl), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Impact B-32: The Project could disturb nesting avian "species of special concern."

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in a net increase in the size and magnitude of direct and indirect impacts to nesting avian Species of Special Concern as a result of additional road grading, and tower construction immediately within and adjacent to undeveloped areas and riparian habitats. Land disturbance associated

with the re-routed portions of this alternative would be approximately 96.9 acres for Route A, 124.5 acres for Route B, 153.5 acres for Route C, 132.7 acres for Route 4C Modified, and 134.1 acres for Route D. Increased construction activity during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take and violate the MBTA. However, implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level (Class II).

Impact B-33: The Project could result in the mortality of and loss of habitat for, special-status bat species.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, Alternative 4 (particularly Route C) would result in an incremental increase, within the Chino Hills, in the number of impacted acres of roosting habitat identified for these species as a result of additional road grading and tower construction. Direct impacts to these species, if present, include mortality of individuals during construction activities, permanent loss of habitat due to construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment). Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The construction and use of access roads could also disturb bats. Construction-related activities, which would generate noise, traffic, dust, and diesel fumes, could result in the direct loss of roosting habitat and subsequent mortality to adult bats or pups if any bats were present in the Alternative 4 area. Indirect effects could include increased traffic, dust, and human presence in the project area that could result in bats abandoning their roosts or maternal colonies. Therefore, SCE shall implement APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) to reduce impacts to a less-than-significant level (Class II).

Impact B-34: The Project could result in transmission line strikes by special-status bat species.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in an incremental increase in the frequency of transmission line strikes by special-status bat species as the distance of transmission lines that occur within natural habitats is greater along Alternative 4 than the proposed Project. Specifically, an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), 4.7 (Route 4C Modified), or 9.8 (Route D) miles of transmission line would occur within and adjacent to Chino Hills State Park. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inches in size (Vaughan 1986), and the size of guard lines

and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inches in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species (Class III).

Impact B-35: The Project could result in mortality of and loss of habitat for, special-status mammals.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. This alternative would result in a net increase in the size and magnitude of direct and indirect impacts to special status mammals as a result of additional ground-disturbing activity, including tower pad preparation and construction and grading of new ROW and access roads in undeveloped areas. These additional impacts would only affect the Northwestern San Diego pocket mouse, Southern grasshopper mouse, and San Diego black-tailed jackrabbit as potential habitat for the other species identified in Section 6.1 does not occur on the Chino Hills, and impacts to these species would be identical to the proposed Project (see Table 6-6). Any potential impacts associated with the implementation of Alternative 4 would be quite small relative to the overall population size and range of these species. However, these animals would still be subject to potential mortality from construction activities. Nonetheless, because habitat for these species is relatively abundant elsewhere, the additional habitat impacted by implementation of Alternative 4 would not substantially reduce available habitat, restrict the range, or cause regional populations to drop below self-sustaining levels. In addition, the implementation of Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species to less-than-significant levels (Class II).

Impact B-36: The Project could result in mortality of San Diego desert woodrat.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to San Diego desert woodrats due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in the foothills of the Chino Hills. Direct impacts from construction activities would include the mortality of individual San Diego desert woodrats or disturbance (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment) to occupied desert woodrat nests. Construction and use of access roads would also result in impacts to this species. Indirect impacts to San Diego desert woodrats include the spread of noxious weeds that would degrade habitat quality and alteration of soils. However, implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) in the areas of suitable habitat, would reduce impacts to less than significant (Class II).

Impact B-37: The Project could result in mortality of, and loss of habitat for, the ringtail.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to ringtails due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads in the Chino Hills. Direct impacts due to construction activities would include mortality of individual ringtails or disturbance of ringtail maternity dens during the pup-rearing season (1 May to 1 September). The construction and use of access roads in riparian areas could also disturb denning ringtails. Construction noise, dust, human presence, or ground disturbance could result in the abandonment of these nest sites or result in mortality of juvenile animals. Indirect impacts to ringtails could include the spread of noxious weeds that would degrade habitat quality, degradation of water quality due to siltation, and alteration of soils. However, the implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce project impacts to ringtails to a less-than-significant level (Class II).

Impact B-38: The Project could result in mortality of American badgers.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to American badgers due to additional ground-disturbing activity, including tower pad preparation and construction and grading of new access roads within suitable habitat in the Chino Hills. Direct impacts to American badgers include mechanical crushing of individuals or burrows by vehicles and construction equipment, noise, dust, and loss of habitat. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. However, any potential mortality would be quite small relative to the overall population size and implementation of APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less than significant (Class II).

Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

Impact B-39: The Project could result in the loss of wetland habitats.

Any loss of these habitats associated with the proposed Project or alternatives is significant. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in a net increase in the size and magnitude of direct and indirect impacts to federally-protected wetlands due to additional road grading, tower construction and removal, and culvert repair. Furthermore, the increased use of wet ford crossings along access roads within the Chino Hills could

increase discharges and runoff, adversely affecting federally protected wetlands. Construction and removal of towers would impact no riparian habitat for Routes A or C Modified, and approximately 0.18 acres of riparian habitat for Route B, 1.08 acres for Route C, and 0.76 acres for Route D. It is unknown at this time what acreage of disturbance to wetland habitats would occur due to construction of new roads, staging areas, etc. as final engineering has not been performed for this alternative. If avoidance of jurisdictional waters and wetlands is not possible, implementation of APMs BIO-1 through BIO-7, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the impacts to federally protected wetlands to less-than-significant levels (Class II).

Interfere substantially with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

Impact B-40: The Project could interfere with established bird and bat migratory corridors.

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative will result in an incremental increase in the frequency of collisions as the distance of transmission lines that occur within natural habitats is greater along Alternative 4 than the proposed Project. Specifically, an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), 4.7 (Route 4C Modified), or 9.8 (Route D) miles of transmission line would occur within and adjacent to Chino Hills State Park. However, implementation of APMs BIO-4 and BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) would ensure impacts to bird and bat migratory corridors would be less than significant (Class III).

Impact B-41: Corona noise could result in disturbance to wildlife.

Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Implementation of Alternative 4 would increase the length of Segment 8 by an additional 6.2 (Route A), 9.7 (Route B), 5.7 (Route C), 4.7 (Route 4C Modified), or 9.8 (Route D) miles of transmission line within and adjacent to Chino Hills State Park. In addition, the impacted area would be greater in size, and corona noise impacts would be greater in magnitude compared to the proposed Project. However, as the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Corona noise is already present along most of Alternative 4, and while Alternative 4 will result in louder corona noise for most segments and a new source of corona noise for the new segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. Therefore, implementation of Alternative 4 will not result in substantial impacts due to corona noise. This impact would be less than significant (Class III).

Impact B-42: The Project would result in effects to Management Indicator Species.

The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. MIS are likely to be subject to various levels of disturbance from implementation of the proposed Project on NFS lands. Because the re-routes associated with Alternative 4 would occur on non-NFS lands, impacts to MIS would be exactly the same as the proposed Project and would be reduced to a less-than-significant level (Class II) with the implementation of APMs BIO-1 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during- construction nest surveys for spotted owl), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Therefore, no additional mitigation measures are required.

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in similar impacts to biological resources, but it would comprise a net increase in the size and magnitude of direct and indirect impacts due to increased construction activities in undeveloped areas. However, because of the extensive planning involved in project design, including implementation of APMs BIO-1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, Alternative 4 is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the San Bernardino County General Plan and Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act, and impacts related to Criterion BIO6 are identical to the proposed Project (no impact).

Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Alternative 4 follows the same route as the proposed Project but deviates to the south at a point approximately two miles east of State Highway 57 along Segment 8A. Compared to the proposed Project, this alternative would result in similar impacts to biological resources, but it would result in a net increase in the size and magnitude of direct and indirect impacts due to increased construction activities in undeveloped areas. However, the Alternative 4 re-routes are located outside of the WMPHCP coverage area, and therefore Alternative 4 would result in identical impacts as the proposed Project (no impact).

8.2 Cumulative Effects Analysis

This section addresses potential cumulative effects that would occur as a result of implementation of Alternatives 4a-d and 4c Modified (Chino Hills Alternative). This alternative consists of a re-route of existing line within and near CHSP to a proposed switching station and removal of existing lines and towers within and just outside of CHSP. In addition, Segment 8C would not be upgraded. Segment 8B would be upgraded as described under Alternative 2. The remainder of this alternative route (west of MP19.2) would be identical to that of the proposed Project and would, therefore, result in identical impacts as the proposed Project. The re-routed portion of the Alternative 4a-d and 4c Modified route would require the establishment of a new ROW, and two sets of existing transmission lines and associated towers and pads would be removed. As a result, this alternative traverses similar habitat types as the portion of the proposed Project route to the west. This portion of the proposed Project would also require the same types of construction activities to build, and would result in the same operational capacity as the proposed Project. However, given that a substantial portion occurs in areas that have not been disturbed or developed, this alternative's contribution to cumulative impacts would be incrementally greater than that of the proposed Project.

8.2.1 Geographic Extent

Alternative 4 differs from the proposed Project for a section of the proposed route leading to the western portion of San Bernardino County near Ontario. This area is still encompassed by the geographic extent of the cumulative analysis defined for the proposed Project in Section 6.2.1. Therefore, the geographic extent of the cumulative analysis for Alternative 4 is exactly the same as that for the proposed Project and would include all of the Northern, Central, and Southern Regions.

8.2.2 Existing Cumulative Conditions

The existing cumulative conditions for Alternative 4 are exactly the same as for the proposed Project, as described in Section 6.2.2.

8.2.3 Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects and changes to the cumulative scenario for Alternative 4 would be exactly the same as the proposed Project, described in Section 6.2.3.

8.2.4 Cumulative Impact Analysis

As described in Section 6.2.4, impacts associated with Alternative 4 would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The minor re-route of the proposed Project transmission line associated with Alternative 4 would not differ significantly from the proposed Project's contribution to cumulative impacts. However, as a greater portion of the Project would be located in undeveloped areas under Alternative 4, this alternative's contribution to cumulative biological impacts would be marginally greater than the proposed Project. This difference would not be substantial, and the significance of cumulative impacts under Alternative 4 would be the same as the significance of cumulative impacts for the proposed Project.

8.2.5 Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for Alternative 4 in Section 7.1 (Direct and Indirect Effects Analysis) would help to reduce this alternative's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative significant impacts to a less-than-significant level.