

Attachment G
**Mitigation Measures and Applicant
Proposed Measures**

Excerpt from the ATP Segment 2 and 3 FEIR (December 2006)

**Also included in the Waste Discharge Requirement
Application Attachment - ATP: Segment 3B, Highwind Substation, and AC
Mitigation (April 2012)
(Provided by Southern California Edison)**

Table 1. APMs and Mitigation Measures for the Proposed Project

Biological Resources APMs	
APM BIO-1	Pre-construction biological clearance surveys would be performed to minimize impacts on special-status plants or wildlife species.
APM BIO-2	Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for protection. A project revegetation plan would be prepared for areas of native habitat temporarily affected during construction. Joshua trees would be afforded protection under applicable provisions of the California Desert Native Plants Act and the City of Palmdale Code, Chapter 14.04 Joshua Tree and Native Desert Vegetation Preservation.
APM BIO-3	Construction crews would avoid affecting the streambeds and banks of any streams along the route to the extent feasible. If necessary, a Streambed Alteration Agreement (SAA) would be secured from CDFG. Impacts would be mitigated based on the terms of the SAA. No streams with flowing waters and/or those capable of supporting special-status species would be expected to be adversely affected from project implementation.
APM BIO-4	Construction and operations crews would be directed to use BMPs where applicable. These measures would be identified prior to construction and incorporated into the construction and maintenance operations.
APM BIO-5	Biological monitors would be assigned to the project. The monitors would be responsible for ensuring that impacts on special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities need to be restricted to protect native plants and wildlife or special-status species. These restricted areas would be monitored to ensure their protection during construction.
APM BIO-6	A Worker Environmental Awareness Program (WEAP) would be prepared, and all construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources as well as their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all personnel trained would be maintained.
APM BIO-7	If it was determined that significant and unavoidable impacts occurred to any special-status resources, SCE would purchase lands or otherwise enhance habitat to compensate.
APM BIO-8	SCE would conduct project-wide raptor surveys and remove trees, if necessary, outside of the nesting season (1 February–31 August). If a tree or pole containing a raptor nest must be removed during the nesting season, or if work is scheduled to take place in proximity to an active nest on an existing transmission tower or pole, SCE would coordinate with CDFG and USFWS and obtain written concurrence prior to moving the nest.
APM BIO-9	All transmission and subtransmission towers and poles would be designed to be raptor-safe in accordance with Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006).
Biological Resources Mitigation Measures	
B-3a	Avoid Desert Wash Habitat. The proposed Project shall be designed to avoid permanent impacts to desert wash habitats. If towers are to be located within desert washes then steps will be taken to relocate these facilities beyond the bed, bank and channel of these habitats. Similarly, access roads that need to cross desert washes will utilize half-arch culverts, steel plates, or any other method that leaves the bottom of the washes untouched and allows for continued conveyance of storm flows. Alternatively, access roads through the washes will be removed during the first season of construction to replace the pre-project topography in a manner that will not interrupt ephemeral surface flows. In areas where the desert wash habitat cannot be avoided, Mitigation B-3b shall be implemented.

B-3b	<p>Preserve Off-site Desert Wash Habitat. Following final project design, SCE, in cooperation with CDFG and the CPUC, shall assess the area of impact to desert wash resources within the project site. To mitigate impacts to this area, off-site desert wash habitat shall be preserved in perpetuity at a ratio determined by CDFG in a Streambed Alteration Agreement dependent on the nature of disturbance and the quality of the desert wash habitat to be impacted. For example, high quality desert wash habitat would be mitigated for in perpetuity at a ratio of 2:1 (two acres preserved for each acre impacted).</p> <p>In the event of loss of desert wash habitat, SCE shall work with CDFG and CPUC to identify appropriate mitigation lands and ensure their permanent protection through an appropriate CDFG-approved mechanism, such as a conservation easement or fee title purchase. Mitigation acquisition shall occur at a CDFG-approved location such as the Desert Tortoise Preserve in Kern County and shall be coordinated through a CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title to acquired habitat lands, or a conservation easement over these lands, shall be transferred to CDFG or to an entity approved by CDFG and CPUC, along with money for enhancement of the land and an endowment for permanent management of the lands.</p>
B-4a	<p>Avoid Joshua Tree and Juniper Woodland Habitat. The proposed Project activities (construction phase, and operations and maintenance phase) shall be designed to avoid Joshua tree woodland habitat and juniper woodland habitat to the maximum extent feasible. All efforts shall be made, in particular, to avoid individual trees of either species. Any trees that must be impacted shall be mitigated at a ratio of 2:1 through preservation of existing habitat so that all impacts to these habitats are mitigated on acreage and tree basis as provided below. SCE shall photo document the number of Joshua and juniper trees removed during project construction and provide a letter report to the CPUC and CDFG at the conclusion of construction.</p>
B-4b	<p>Preserve Off-site Joshua Tree Woodland and Juniper Woodland Habitat. To mitigate impacts to either habitat, existing offsite Joshua tree woodland habitat and juniper woodland habitat shall be preserved in perpetuity at a 2:1 mitigation ratio (two acres preserved for each acre impacted). The minimum standard for preservation of, or mitigation of, Joshua trees is two Joshua trees per acre. The SCE shall coordinate with CDFG and CPUC to identify appropriate mitigation lands and ensure their permanent protection through an appropriate CDFG-approved mechanism, such as a conservation easement or fee title purchase. A conservation easement could be held by CDFG or an approved land management entity and would be recorded within a time frame agreed upon by CDFG. SCE shall provide verification of the purchase of mitigation land to the CPUC within 60 days following the conclusion of construction.</p>
B-6a	<p>Obtain Technical Assistance from the USFWS for Desert Tortoise. The applicants shall request technical assistance from the USFWS and CDFG to review the potential for desert tortoise to occupy suitable habitat within the Project area and obtain concurrence that the applicants proposed measures along with mitigation measures listed below would avoid impacts to this listed species.</p>
B-6b	<p>Conduct Focused Clearance Surveys in Designated Areas. SCE shall contract with a qualified local biologist to conduct focused clearance surveys for desert tortoise prior to construction activities located within areas designated in the WMP as desert tortoise "Survey Areas." Clearance surveys shall follow the USFWS desert tortoise survey protocol, as modified within the WMP. If present SCE shall develop and implement mitigation and monitoring plan that includes the following measures in consultation with the USFWS and CDFG.</p> <p>SCE shall retain a qualified biologist with demonstrated expertise with desert tortoise to monitor all construction activities and assist SCE in the implementation of the monitoring program. This person will be approved by the USFWS prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports desert tortoise.</p> <p>Prior to the onset of construction activities, SCE shall provide all personnel who will be</p>

present on work areas within or adjacent to the Project area the following information:

A detailed description of the desert tortoise including color photographs;

The protection the desert tortoise receives under the Endangered Species Act and possible legal action or that may be incurred for violation of the Act;

The protective measures being implemented to conserve the desert tortoises and other species during construction activities associated with the proposed Project; and

A point of contact if desert tortoises are observed.

All trash that may attract predators of desert tortoises will be removed from work sites or completely secured at the end of each work day.

Prior to the onset of any construction activities, SCE shall meet on-site with staff from the USFWS and the authorized biologist. SCE shall provide information on the general location of construction activities within habitat of the desert tortoises and the actions taken to reduce impacts to this species. Because desert tortoise may occur in various locations during different seasons of the year, SCE, USFWS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on desert tortoise. For example construction during the time of year when desert tortoise are dormant would reduce impacts to this species. The goal of this effort is to reduce the level of mortality of desert tortoise during construction.

Where construction can occur in habitat where desert tortoise are widely distributed, work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the USFWS/CDFG/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the authorized biologist in concurrence with the USFWS/CDFG/CPUC.

If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease until the authorized biologist moves the desert tortoises.

If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the individual(s). The authorized biologist in consultation with USFWS/CDFG/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.

Any desert tortoises found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.

The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

Staging areas [Material and Contractor yards] for all construction activities will be located on previously disturbed upland areas designated for this purpose. All staging areas will be fenced.

SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when desert tortoise may be present on the access road. Traffic speed should be maintained at 20 mph or less in the work area.

B-7a	<p>Conduct Pre-construction Surveys for Swainson's Hawks. To assure that nesting Swainson's Hawks are not disturbed by construction activities, a qualified ornithologist shall conduct preconstruction surveys within one mile of the Project area in regions with suitable nesting habitat for Swainson's Hawks. Survey Period I occurs from January 1 to March 20, Period II from March 20 to April 5, Period III from April 5 to April 20, Period IV from April 21 to June 10 (surveys not recommend during this period because identification is difficult as the adults tend to remain within the nest for longer periods of time), and Period V from June 10 to July 30. No fewer than three surveys shall be completed, in at least each of the two survey periods immediately prior to project initiation. If a nest site is found, consultation with CDFG shall be required to ensure project initiation will not result in nest disturbance (see Mitigation B-7b). CDFG recommends that no new disturbances or other project-related activities which may cause nest abandonment or forced fledging be initiated within ¼ mile (.40 km) of an active nest between March 1 and September 15 or until August 15 of a Management Authorization of Biological Opinion is obtained for the project (CDFG, 1994b). CDFG recommends that the buffer zone be increased to ½ mile (.80 km) in nesting areas away from urban development (CDFG, 1994b). These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG.</p>
B-7b	<p>Remove Nest Trees. Nest trees within the Project area(s) shall not be removed unless avoidance measures are determined to be infeasible. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained from CDFG. The Management Authorization will specify the tree removal period, generally between October 1 and February 1. If construction or other project related activities which may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the applicant) by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned, and if the nestlings are still alive, the applicant shall fund the recovery and hacking (controlled release of captive reared young) of nestling(s).</p>
B-9a	<p>Avoid Construction During the Breeding Season. In order to avoid disturbance to nesting Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Vermilion Flycatcher, and Least Bell's Vireo construction activities at Amargosa Creek and Oak Creek shall be avoided during the breeding season (April 15 to August 31).</p>
B-9b	<p>Conduct Pre-construction Surveys at Amargosa Creek Crossing and Oak Creek. If construction activities must occur during breeding season at the Amargosa Creek crossing and at Oak Creek, in order to assure that nesting special-status bird species will not be disturbed by construction activities, a qualified ornithologist shall conduct protocol-level surveys of the project site and adjacent areas within 500 ft of the Project area for Yellow-billed Cuckoo, Southwestern Willow Flycatcher, and Least Bell's Vireo. These surveys shall be conducted during the breeding season (April 15 to August 15). If nests are found during the survey, a disturbance-free buffer shall be established in coordination with CDFG. The Vermilion Flycatcher is a "species of concern". A standardized survey protocol for this species has not been developed. Surveys adequate to detect Vermilion Flycatchers could be conducted in conjunction with the protocol-level surveys for Southwestern Willow Flycatcher and Least Bell's Vireo.</p>
B-10a	<p>Conduct Focused Surveys for Mohave Ground Squirrels. Surveys for Mohave ground squirrels shall be performed in the portion of the Project area containing potential Mohave ground squirrel habitat. These surveys shall be performed by a qualified biologist according to CDFG's <i>Mohave Ground Squirrel Survey Guidelines</i> (January 2003). Surveys for Mohave ground squirrel are performed between March 15 and July 15 using standard live trapping techniques. Three weeks of trapping are required during this time, although trapping will cease once a Mohave ground squirrel is captured or observed. The trapping grids each contain 100 traps arranged in 4 rows of 25 and spaced 35 meters apart, for a total grid length of one-half mile. The length of the Project area is sufficiently long to require approval of a site-specific survey layout by CDFG. The layout proscribed by CDFG shall determine the total number of grids required.</p>
	<p>If these surveys obtain positive results for Mohave ground squirrel, or if Mohave ground squirrel presence is assumed within potential habitat, SCE shall obtain incidental take authorization from CDFG. This authorization will likely include mitigation measures B-10b and B-10c below.</p>

B-10b	<p>Implement Construction Monitoring and Worker Environmental Awareness Program. To reduce the potential of take of Mohave ground squirrels, and prior to ground disturbing activity, a qualified biologist will deliver a Worker Environmental Awareness Program (WEAP) on the ecology of the Mohave ground squirrel to the construction employees. A qualified biological monitor shall be on site during initial ground disturbing activities. The name and phone number of the biological monitor shall be provided to a CDFG regional representative at least fourteen (14) days before ground disturbing activities. If the biological monitor observes a living Mohave ground squirrel on the construction site and/or determines that a Mohave ground squirrel was killed by project related activities during construction or otherwise found dead, a written report will be sent to CDFG within five (5) calendar days. The report will include the date, time of the finding or incident (if known), location of the carcass and the circumstances (if known). Mohave ground squirrel remains shall be collected and frozen as soon as possible. CDFG shall be contacted as to the ultimate disposition of the remains.</p>
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B-10c	<p>Preserve Off-site Habitat for Mohave Ground Squirrel. To mitigate potential impacts from project construction, the SCE will acquire habitat occupied by Mohave ground squirrels based on the following ratios previously approved by the CDFG for projects in the region:</p> <p>Five acres of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of native creosote bush scrub habitat and Joshua tree woodland habitat within the Kern County Study Area of the Habitat Conservation Area (HCA) delineated in the WMP (Rosamond Boulevard to Oak Creek Road – see habitat description in species account).</p> <p>Three acres of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of native creosote bush scrub habitat and Joshua tree woodland habitat outside of the HCA delineated in the WMP (Rosamond Boulevard to Oak Creek Road– see habitat description in species account).</p> <p>One acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of saltbrush scrub habitat (including inclusions of desert wash) impacted by the project outside of the HCA delineated in the WMP (Rosamond Boulevard to Oak Creek Road– see habitat description in species account).</p> <p>One-half acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert scrub habitat impacted by the project outside of the HCA delineated in the WMP (Rosamond Boulevard to Oak Creek Road– see habitat description in species account).</p> <p>No mitigation will occur for agricultural, non-native annual grassland, developed, or compacted barren ground within the Project area.</p> <p>Mitigation acquisition shall occur at a CDFG-approved location such as the Desert Tortoise Preserve in Kern County and shall be coordinated through a CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title to acquired habitat lands, or a conservation easement over these lands, shall be transferred to CDFG or to an entity approved by CDFG and CPUC, along with money for enhancement of the land and an endowment for permanent management of the lands. If it is determined that Joshua tree woodland and/or Juniper woodland preserved through implementation of mitigation measure B-4b detailed above also supports Mojave ground squirrel populations, these off-site lands can be used to satisfy the requirements of this mitigation measure.</p>
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B-12a	<p>Conduct Focused Surveys for Short-joint Beavertail. Floristic surveys shall be conducted for short-joint beavertail. It is a perennial cactus and as such, is easily detected once tower and road positions are staked. These surveys will be limited to suitable habitat within proposed T/L access roads and towers and in any temporary, associated staging areas. The surveys shall be initiated prior to any ground disturbance.</p>
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B-12b	<p>Avoid Impacts to Short-joint Beavertail. The proposed roadways, towers, and temporary construction staging areas shall be situated to avoid impacts to short-joint beavertail individuals, to the extent practicable. In some cases, individual plants could be transplanted to adjacent habitat, provided that SCE adheres to the monitoring plan listed in mitigation measure B-11c.</p> <p>Short-joint beavertail occurrences located within temporary construction areas shall be fenced or flagged for avoidance prior to construction, and a biological monitor shall be present to ensure compliance with off-limits areas.</p>
B-12c	<p>Remove and Reintroduce Short-joint Beavertail. Prior to grading, a qualified biologist shall develop a short-joint beavertail removal and reintroduction plan for any impacted plants. This plan shall include a map of impacted plants, a suitable method of removal of the species, detailed planting instructions for optimal survival of the transplanted individual, and a map of the transplant location within 200 feet of the impact area and within the same habitat type in which the plant was originally growing. This plan shall be approved by CDFG and CPUC prior to the issuance of grading permits.</p>
B-13c	<p>Minimize impacts to Montane Scrub and Juniper Woodland Habitats. The proposed roadways, towers, and temporary construction staging areas shall be situated to minimize ground disturbance activities within the montane scrub, juniper woodland, and chaparral habitats.</p>
B-13d	<p>Preserve Off-site Montane Scrub and Juniper Woodland Habitats. To mitigate impacts to these habitats, existing offsite montane scrub (including chaparral) and juniper woodland habitats shall be preserved in perpetuity at a 1:1 mitigation ratio (one acre preserved for each acre impacted).</p> <p>SCE shall work with CDFG to identify appropriate mitigation lands and ensure their permanent protection through an appropriate CDFG-approved mechanism, such as a conservation easement or fee title purchase. A conservation easement could be held by CDFG or an approved land management entity and shall be recorded within a time frame agreed upon by CDFG.</p>
B-17	<p>Conduct Pre-construction Surveys and Monitoring for Breeding Birds. SCE shall conduct preconstruction surveys for nesting birds if construction and removal activities are scheduled to occur during the breeding season for raptors and other migratory birds. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access road/spur road locations. SCE shall be responsible for designating a qualified biologist who can conduct preconstruction surveys and monitoring for breeding birds. If nests are found during the survey, a disturbance-free buffer shall be established in coordination with CDFG. The biological monitor shall conduct regular monitoring of the nest to determine success/failure and to ensure that project activities are not conducted within the buffer until the nesting cycle is complete or the nest fails.</p>
B-19a	<p>Implement CDFG protocol for burrowing owls. In conformance with federal and state regulations regarding the protection of raptors, a habitat assessment in accordance with CDFG protocol for Burrowing Owls shall be completed prior to the start of construction. Burrowing Owl habitat within the Project area and within a 500-foot (150 m) buffer zone shall be assessed ("Assessment Area"). If the habitat assessment concludes that the Assessment Area lacks suitable Burrowing Owl habitat, no additional action would be warranted. However, if suitable habitat is located on the Assessment Area, all ground squirrel colonies, rabbit and badger dens, or other man-made or natural cavities shall be mapped at an appropriate scale, and the following mitigation measures shall be implemented:</p> <p>In conformance with federal and state regulations regarding the protection of raptors, a preconstruction survey for Burrowing Owls, in conformance with CDFG protocol, shall be completed no more than 30 days prior to the start of construction within suitable habitat at the project site(s) and buffer zone(s). Three additional protocol-level surveys shall also be completed per CDFG protocol prior to construction.</p> <p>Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: 1) the birds have not begun egg-laying and incubation; or 2) that</p>

	<p>juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction.</p> <p>A 250-foot (76 m) buffer, within which no activity will be permissible, will be maintained between project activities and nesting Burrowing Owls during the nesting season. This protected area will remain in effect until August 31, or at the CDFG's discretion and based upon monitoring evidence, until the young owls are foraging independently.</p> <p>If accidental take (disturbance, injury, or death of owls) occurs, the CDFG/CPUC lead monitor will be notified immediately.</p>
B-19b	<p>Compensate for Loss of Burrowing Owl Habitat. If surveys determine that Burrowing Owls occupy the site and avoiding development of occupied areas is not feasible, then habitat compensation on off-site mitigation lands shall be implemented. Habitat Management (HM) lands comprising existing Burrowing Owl foraging and breeding habitat shall be acquired and preserved if required by the CDFG. An area of 6.5 acres (2.6 ha) (the amount of land found to be necessary to sustain a pair or individual owl) shall be secured for each pair of owls, or individual in the case of an odd number of birds. As part of an agreement with the CDFG, the project applicant shall secure the performance of its mitigation duties by providing the CDFG with security in the form of funds that would:</p> <p>Allow for the acquisition and/or preservation of 6.5 acres (2.6 ha) of HM lands;</p> <p>Provide initial protection and enhancement activities on the HM lands, potentially including, but not limited to, such measures as fencing, trash clean-up, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFG;</p> <p>Establish an endowment for the long-term management of the HM lands; and</p> <p>Reimburse the CDFG for reasonable expenses incurred as a result of the approval and implementation of this agreement.</p>
B-20a	<p>Avoid Nesting Season for Raptors. To the extent practicable, construction shall be scheduled to avoid the nesting season for raptor species, which extends from January through August.</p>
B-20b	<p>Conduct Pre-construction Surveys for Nesting Raptors. If it is not possible to schedule construction between August and January, then one of the following options shall be implemented:</p> <p>With the approval of the CDFG, trees containing known or potential raptor nest sites may be removed to discourage future nesting attempts on the condition that no raptor pair is currently utilizing the site; or,</p> <p>Pre-construction surveys for nesting raptors shall be conducted by a qualified ornithologist or wildlife biologist to ensure that no raptor nests will be disturbed during project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the qualified person shall inspect all trees in and immediately adjacent to the impact areas for raptor nests. If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with CDFG, shall determine the extent of a construction-free buffer zone to be established around the nest.</p>
B-26	<p>Passively Relocate American Badgers During the Non-breeding Season. SCE shall survey and identify any badger dens located in the Project area. Occupied dens shall be flagged for avoidance. Un-occupied dens located in the ROW shall be covered to prevent the animal from re-occupying the den prior to construction. Occupied dens in the ROW shall be hand-excavated if avoidance is not possible. Dens shall only be hand-excavated before or after the breeding season (February-May). Any relocation of badgers shall take place after consultation with the CDFG.</p>
B-27a	<p>Avoid Creating Barriers to Movements. To avoid creating barriers to desert tortoise movements, within areas designated in the WMP as desert tortoise "Survey Areas," roadbeds shall not be lowered and berms shall not exceed 12 inches (30 cm) or a slope of 30 degrees.</p>

B-27b Invasive Weed Prevention. Non-native or Invasive plants (*i.e.*, non-native species) shall not be used during any re-seeding or landscaping activities associated with site restoration within areas designated in the WMP as desert tortoise "Survey Areas."

Hydrology APMs

APM HYD-1	A Construction SWPPP would be submitted to Los Angeles and Kern counties along with grading permit applications. Implementation of the Plan would help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be adhered to during construction activities. Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. During construction activities, measures would be in place to ensure that contaminants are not discharged from the construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff.
APM HYD-2	An environmental training program would be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, and SWPPP measures, to all field personnel. A monitoring program would be implemented to ensure that the plans are followed throughout the period of construction.
APM HYD-3	The Construction SWPPP identified above would include procedures for quick and safe cleanup of accidental spills. This plan would be submitted with the grading permit application. The Construction SWPPP would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.
APM HYD-4	Oil-absorbent materials, tarps, and storage drums would be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from foundations during pouring, it would be directed to bermed areas adjacent to the borings where the water would infiltrate or evaporate and the concrete would remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it would be removed and transported to an approved landfill for disposal.
APM HYD-5	A Phase I ESA would be performed at each new substation location and along newly acquired T/L ROWs. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.
APM HYD-6	If groundwater were encountered while excavating or constructing the T/L or substations, dewatering operations would be performed. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with BMP NS-2 (Dewatering Operations) from the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook – Construction (CASQA, 2003).

Hydrology Mitigation Measures

H-1a Implementation of Best Management Practices for Erosion and Sediment Control. The following Best Management Practices (BMPs) shall be implemented to minimize potential hydrologic impacts of erosion and sedimentation created through project construction:
 Mechanical and vegetative measures shall be implemented to provide surface soil stability in areas where Project construction requires the exposure of cut slopes, fill slopes, or spoil disposal. The level of stabilization effort depends upon site-specific factors such as slope angle, soil type, climate, and proximity to waterways. Mechanical measures may include but are not limited to: wattles, erosion nets, terraces, side drains, blankets, mats, riprapping, much, tackifiers, pavement, soil seals, and windrowing construction slash at the toe of fill slopes. Vegetative measures shall be used to supplement mechanical measures, as appropriate. The appropriate stabilization effort using mechanical and vegetative measures shall be determined by the supervising project or crew leader prior to the onset of construction, based on site-specific conditions.

Road slope stabilization practices shall be implemented prior to the first winter rains. These practices shall include: verification of the correct cut and fill slope steepness as dependent upon the dominant soil type/s present, implementation of methods to handle surface and subsurface runoff, and finalization of road surface compaction or application of appropriate surfacing material.

Any temporary roadways which are built or used for the purpose of transporting construction equipment and materials to construction sites shall be situated to prevent undercutting of the designated final cut slope, avoid deposition of materials outside the designated roadway limits, and accommodate drainage with temporary culverts. Road siting is dependent upon site-specific conditions and shall be determined by the supervising project or crew leader prior to the onset of construction activities.

Embankment methods shall be implemented to ensure adequate strength of the roadway and shoulder and to minimize potential failure of road embankments and fill areas. Acceptable stabilization methods include: sidecasting and end dumping, layer placement (roller compaction), controlled compaction, minimization of fill volumes, or strengthening of fills using retaining walls, confinement systems, plantings, or a combination of techniques. The appropriate stabilization effort shall be determined by the supervising project or crew leader prior to the onset of construction, based on site-specific conditions.

Strictly control vehicular traffic to only that which is minimally necessary to transport materials, equipment, and construction personnel to the Project site. Roads that must be used during wet periods shall have a stable surface and sufficient drainage, as determined by the supervising project or crew leader, to prevent rutting and churning of the road surfaces.

Re-vegetate all areas disturbed by grading or clearing following construction, unless operation and maintenance of the Project would require the area to remain clear (such as with an access road).

Establish the use of concrete washout stations to capture and contain concrete washout material and wastewater to avoid direct release of washout to surface water.

H-1d Timing of Construction Activities. Construction activities, particularly regarding roadway installations and improvements, must not occur when precipitation events are expected.

H-7 Protect Aboveground Structures Against Flood and Erosion Damage. Aboveground project features such as T/L towers and substation facilities shall be designed and engineered to withstand any mechanical stresses that may result from location, such as potential flooding or erosion of the surrounding area. Site-specific measures may include tower anchoring, installation of slope protection, or raising foundation levels. All Project-related facilities shall be placed outside the current and reasonably expected future flow path of watercourses. No Project-related facilities shall be positioned within a known watercourse.

Geology and Soils APMs	
APM GEO-2	Prior to final design of substation foundations and T/L structure foundations, a geotechnical study would be performed to identify site-specific geologic conditions in enough detail to support final engineering.
APM GEO-3	T/L and substation construction activities would be performed in accordance with the soil erosion/water quality protection measures specified in the Construction SWPPP.
Geology and Soils Mitigation Measures	
G-1	Protect Against Slope Instability. Design-level geotechnical investigations performed by the Applicant shall be performed by a licensed geologist or engineer and shall include evaluation of slope stability issues in areas of planned grading and excavation, and provide recommendations for development of grading and excavation plans. Based on the results of the geotechnical investigations, appropriate support and protection measures shall be designed and implemented to maintain the stability of slopes adjacent to newly graded or re-graded access roads and work areas during and after construction. These measures shall include, but are not limited to, retaining walls, visqueen, removal of unstable materials, and avoidance of highly unstable areas. SCE shall document compliance with this measure prior to the start of construction by submitting a report to the CPUC for review and approval. The report shall document the investigations and detail the specific support and protection measures that will be implemented.
G-2	Minimize Soil Erosion. The Construction SWPPP for the Project shall include Best Management Practices (BMPs) designed to minimize soil erosion along access roads and at work areas. Appropriate BMPs may include construction of water bars, grading road surfaces to direct flow away from natural slopes, use of soil stabilizers, and consistent maintenance of roads and culverts to maintain appropriate flow paths. Silt fences and straw bales installed during construction shall be removed to restore natural drainage during the cleanup and restoration phase of the project. Where access roads cross streams or drainages, they shall be built at or close to right angles to the streambeds and washes and culverts or rock crossings shall be used to cross streambeds and washes. Design of appropriate BMPs should be conducted by or under the direction of a qualified geologist or engineer.
Hazardous Materials APMs	
APM HAZ-1	A Phase I ESA would be performed at each new substation location and along newly acquired T/L ROWs. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.
Hazardous Materials Mitigation Measures	
HAZ-1a	Implement an Environmental Training and Monitoring Program. An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice (BMP) implementation, to all construction and maintenance personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and include a review of all site-specific plans, including but not limited to, the Project's SWPPP, Erosion Control and Sediment Transport Plan, Health and Safety Plan, Waste Characterization and Management Plan, and Hazardous Substances Control and Emergency Response Plan. Properly trained construction and maintenance staff would hopefully not cause hazardous materials spills, and in the event of a spill would be able to quickly ascertain the best way to stop and clean up the spill, thus limiting potential soil contamination.

	<p>A monitoring program shall also be implemented to ensure that the plans are followed throughout the period of construction. BMPs, as identified in the Project SWPPP and Erosion Control and Sediment Transport Plan, shall also be implemented during the construction of the Project to minimize the risk of an accidental release and provide the necessary information for emergency response.</p>
HAZ-1b	<p>Implement a Hazardous Substance Control and Emergency Response Plan. SCE shall prepare a Hazardous Substance Control and Emergency Response Plan, which shall include preparations for quick and safe cleanup of accidental spills. This plan shall be submitted with the grading permit applications to the appropriate oversight agency, based on grading location. It shall prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction, and include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan shall identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted. These directions and requirements will also be reiterated in the Project SWPPP. SCE shall document compliance with this measure prior to the start of construction by submitting the plan to the CPUC for review.</p>
HAZ-1d	<p>Emergency Spill Supplies and Equipment for Construction Activities. Hazardous material spill kits shall be maintained on-site for small spills. These kits shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the Project's Hazardous Substances Control and Emergency Response Plan</p>
HAZ-2a	<p>Implement Spill Prevention, Countermeasure, and Control Plans. SCE shall document compliance with updating and preparing SPCCs for each substation facility by (a) submitting to the CPUC for review and approval an outline of the proposed Environmental Training and Monitoring Program, (b) providing a list of names of all operations personnel who have completed the training program, and (c) providing a copy of the SPCC plans to the CPUC for review and approval at least 60 days before the start of operation.</p>
HAZ-2b	<p>Emergency Spill Supplies and Equipment for Operation and Maintenance Activities. Hazardous material spill kits shall be available in all maintenance vehicles for small spills. These kits shall include oil-absorbent material and tarps to contain and control any minor releases. During significant maintenance operations, emergency spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the Project's Hazardous Substances Control and Emergency Response Plan.</p>
