

## Appendix D SSHCP Chapter 5 - AMMs Applicable to the Phan Apartment Homes at Sierra Vista Park Project

**NOTE: SOME OF THE USFWS AND CDFW AMMS DIFFER FROM WHAT WAS IN THE FINAL ADOPTED SSHCP. THIS DOCUMENT HAS BEEN PREPARED TO PROVIDE GUIDANCE FOR COMPLIANCE WITH PERMIT AMMS BY PROVIDING ONE SET OF AMMS. MODIFICATIONS TO THE ORIGINALLY ADOPTED AMMS ARE REFLECTED IN TRACK CHANGES BELOW. THIS DOES NOT REFLECT ALL PERMIT CONDITIONS.**

### 5.4.1 General Avoidance and Minimization Measures

General AMMs are designed to avoid or minimize effects of Covered Activities on SSHCP land cover types and Covered Species.

#### **Condition 1. Avoid and Minimize Urban Development Impacts to Watershed Hydrology and Water Quality**

**LID-1 (Stormwater Quality):** When the size of a Covered Activity project exceeds the thresholds established by the State Water Resources Control Board (SWRCB) (see the most recent Stormwater Quality Design Manual for the Sacramento and South Placer Regions, or future SWRCB-approved design manuals applicable to the Plan Area), incorporate stormwater management into site design to satisfy the requirements outlined in the most recent Stormwater Quality Design Manual for the Sacramento and South Placer Regions. Stormwater management may include groundwater recharge (LID-2) and natural site features (LID-3).

**LID-2 (Groundwater Recharge):** When siting SSHCP Preserves containing Riparian, Open Water, or Freshwater Marsh SSHCP land cover types, the Implementing Entity will prioritize locations that are suitable for groundwater recharge.

**LID-3 (Natural Site Features):** Incorporate preservation of a site's natural aquatic features (such as creeks and streams) into project design to retain natural hydrologic patterns and to retain habitat that might be used by Covered Species.

#### **Condition 3. Implement Construction Best Management Practices**

AMMs associated with Condition 3 must be applied to all UDA Covered Activities.

**BMP-1 (Construction Fencing):** Orange construction fencing will be installed to ensure that ground disturbance does not extend beyond the allowed construction footprint (i.e.,

## Final South Sacramento Habitat Conservation Plan

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the limit of project construction plus equipment staging areas and access roads). Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will mark the outer boundary of any Preserve Setback or Stream Setback adjacent to or within the project site with orange construction fencing prior to ground disturbance. This fencing will remain in place until project completion, as identified by the Plan Permittee.

**BMP-2 (Erosion Control):** Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will install temporary control measures for sediment, stormwater, and pollutant runoff as required by the Plan Permittee to protect water quality and species habitat. Silt fencing or other appropriate sediment control device(s) will be installed downslope of any Covered Activity that disturbs soils.

Fiber rolls and seed mixtures used for erosion control will be certified as free of viable noxious weed seed. As discussed in Section 5.4.2, Covered Species Take Avoidance and Minimization Measures, erosion controls installed in or adjacent to Plan Area modeled habitat for giant gartersnake (*Thamnophis gigas*), western pond turtle (*Actinemys marmorata*), California tiger salamander (*California tiger salamander*), or western spadefoot (see Chapter 3) must be of appropriate design and materials that will not entrap the species (e.g., not contain mesh netting). Regular monitoring and maintenance of the project's erosion control measures will be conducted until project completion to ensure effective operation of erosion control measures.

**BMP-3 (Equipment Storage and Fueling):** Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will ensure that equipment storage and staging will occur in the development footprint only (not sited in any existing on-site Preserve, planned on-site Preserve, Preserve Setback, Stream Setback, or aquatic land cover type). Fuel storage and equipment fueling will occur away from waterways, stream channels, stream banks, and other environmentally sensitive areas within the development footprint.

However, certain equipment storage and fueling activities can be allowed on Preserves within habitat re-establishment/establishment sites (refer to Section 5.2.7) if no location outside of the site is available. If a Covered Activity results in a spill of fuel, hydraulic fluid, lubricants, or other petroleum products, the spill will be absorbed and waste disposed of in a manner to prevent pollutants from entering a waterway, Preserve, Preserve Setback, or Stream Setback.

**BMP-4 (Erodible Materials):** Plan Permittees and Third-Party Project Proponents implementing Covered Activities must not deposit erodible materials into waterways. Vegetation

## Final South Sacramento Habitat Conservation Plan

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clippings, brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks. Erodible material must be disposed of such that it cannot enter a waterway, Preserve, Preserve Setback, Stream Setback, or aquatic land cover type. If water and sludge must be pumped from a subdrain or other structure, the material will be conveyed to a temporary settling basin to prevent sediment from entering a waterway.

**BMP-5 (Dust Control):** Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will water active construction sites regularly, if warranted, to avoid or minimize impacts from construction dust on adjacent vegetation and wildlife habitats. No surface water will be used from aquatic land covers; water will be obtained from a municipal source or existing groundwater well.

**BMP-6 (Construction Lighting):** Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will direct all temporary construction lighting (e.g., lighting used for security or nighttime equipment maintenance) away from adjacent natural habitats, and particularly Riparian and Wetland habitats and wildlife movement areas.

**BMP-7 (Biological Monitor):** If a Covered Activity includes ground disturbance within Covered Species modeled habitat, an approved biologist will be on site during the period of ground disturbance, and may need to be on site during other construction activities depending on the Covered Species affected. After ground-disturbing project activities are complete, the approved biologist will train an individual to act as the on-site construction monitor for the remainder of construction, with the concurrence of the Permitting Agencies. The on-site monitor will attend the training described in BMP-8. The approved biologist and the on-site monitor will have oversight over implementation of Avoidance and Minimization Measures, and will have the authority to stop activities if any of the requirements associated with those measures are not met. If the monitor requests that work be stopped, the Wildlife Agencies will be notified within one working day by email. The approved biologist and/or on-site monitor will record all observations of listed species on California Natural Diversity Database field sheets and submit them to the California Department of Fish and Wildlife. The approved biologist or on-site monitor will be the contact source for any employee or contractor who might inadvertently kill or injure a Covered Species or who finds a dead, injured or entrapped individual. The approved biologist and on-site monitor's names and telephone numbers will be provided to the Wildlife Agencies prior to the initiation of ground-disturbing

## Final South Sacramento Habitat Conservation Plan

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activities. Refer to species-specific measures for details on requirements for biological monitors.

**BMP-8 (Training of Construction Staff):** A mandatory Worker Environmental Awareness Program will be conducted by an approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The training will include how to identify Covered Species that might enter the construction site, relevant life history information and habitats, SSHCP and statutory requirements and the consequences of non-compliance, the boundaries of the construction area and permitted disturbance zones, litter control training (SPECIES-2), and appropriate protocols if a Covered Species is encountered. Supporting materials containing training information will be prepared and distributed by the approved biologist. When necessary, training and supporting materials will also be provided in Spanish. Upon completion of training, construction personnel will sign a form stating that they attended the training and understand all of the Avoidance and Minimization Measures. Written documentation of the training must be submitted to the Implementing Entity within 30 days of completion of the training, and the Implementing Entity will provide this information to the Wildlife Agencies.

**BMP-9 (Soil Compaction):** After construction is complete, all temporarily disturbed areas will be restored similar to pre-project conditions, including impacts relating to soil compaction, water infiltration capacity, and soil hydrologic characteristics.

**BMP-10 (Revegetation):** Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will revegetate any cut-and-fill slopes with native or existing non-invasive, non-native plants (e.g., non-native grasses) suitable for the altered soil conditions and in compliance with EDGE-2 and EDGE-8, if applicable.

**BMP-11 (Speed Limit):** Project-related vehicles will observe the posted speed limits on paved roads and a 10-mile-per-hour speed limit on unpaved roads and during travel in project areas. Construction crews will be given weekly tailgate instruction to travel only on designated and marked existing, cross-country, and project-only roads.

### Condition 7. Avoid and Minimize Impacts to Streams and Creeks

AMMs associated with Condition 7 must be applied to all Covered Activities where a stream or creek is located within a project footprint.

## Final South Sacramento Habitat Conservation Plan

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**STREAM-1 (Laguna Creek Wildlife Corridor):** A 150-foot setback measured from the top of the bank on both sides of the stream will be applied to Laguna Creek within the Urban Development Area (minimum 300-foot corridor width). If trails are located within the Laguna Creek Wildlife Corridor, the nearest edge of the trail will be located at least 80 feet from the top of the bank.

**STREAM-2 (UDA Stream Setbacks):** A 100-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all streams listed in Table 5-2 (see also Figure 2-4). If a stream reach supports woody riparian vegetation, the setback will be equal to the riparian edge plus 25 feet or will be the setback defined above, whichever is greater. If trails are located within the Stream Setback, the nearest edge of the trail will be located at least 50 feet from the top of the bank.

### Stream Setback Minimum Requirements in the Urban Development Area

Stream	Minimum Setback (from the Top of Bank Measured in Aerial Perspective) on Both Sides of the Stream
Elder Creek	100 feet
Frye Creek	100 feet or as depicted as part of the NewBridge development project hardline Preserve (see Appendix K)
Gerber Creek	100 feet
Morrison Creek	100 feet
Central Paseo	100 feet or as depicted as part of the Cordova Hills development project hardline Preserve (Appendix K)
Sun Creek	100 feet or as depicted as part of the Sun Creek development project hardline Preserve (see Appendix K)

**STREAM-3 (Minor Tributaries to UDA Streams):** A 25-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all avoided first and second order tributaries to the streams listed in Table 5-2 and Laguna Creek. Refer to Objective W6 in Chapter 7 (Table 7-1) regarding avoided first and second order tributaries. Trails are not permitted within headwater ephemeral Stream Setbacks.

**STREAM-4 (Minimize Effects from Temporary Channel Re-Routing):** When an Urban Development Covered Activity temporarily re-routes a stream, creek, or drainage, the re-routing will be completed in a manner that minimizes impacts to beneficial uses and habitat. The following measures will be employed to minimize disturbances that will adversely impact water quality:

- No equipment will be operated in areas of flowing or standing water.

## Final South Sacramento Habitat Conservation Plan

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- Construction materials and heavy equipment must be stored outside of the active flow of any waters.
- When work within waters is necessary, the entire stream flow will be diverted around the work area.
- In the event of rain, the disturbed in-water work area will be temporarily stabilized before water body flow exceeds the capacity of the diversion structure. The disturbed water body will be stabilized so that the disturbed areas will not come in contact with the flow.
- Once construction is complete, all project-introduced material (e.g., pipes, gravel, cofferdam, sandbags) must be removed, leaving the water as it was before construction. Excess materials will be disposed of at an appropriate disposal site.
- All work areas will be effectively isolated from stream flows using suitable control measures before commencement of any in-water work. The diverted stream flow will not be contaminated by construction activities. Structures for isolating the in-water work area and/or diverting the stream flow (e.g., cofferdam, geo-textile silt curtain) will not be removed until all disturbed areas are cleaned and stabilized.
- Any flow diversion used during construction will be designed in a manner to prevent pollution and minimize siltation, and will provide flows to downstream reaches. Flows will be maintained to support existing aquatic life, riparian wetlands, and habitat that may be located upstream and downstream from any temporary diversion.
- All surface waters, including ponded waters, will be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity that may result in a discharge to waters.
- All temporary dewatering methods will be designed to have the minimum necessary impacts to waters to isolate the immediate work area. All dewatering methods will be installed such that natural flow is maintained upstream and downstream of the diversion area. Any temporary dams and diversions will be installed such that the diversion does not cause sedimentation, siltation, or erosion upstream or downstream of the diversion area. All dewatering methods will be removed immediately upon completion of diversion activities.
- A method of containment must be used below any bridge, boardwalk, and/or temporary crossing to prevent debris from falling into the waters through the entire duration of a project.

## Final South Sacramento Habitat Conservation Plan

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- If temporary surface water diversions and/or dewatering are anticipated, the Third-Party Project Proponent will develop and maintain on site a surface water diversion and/or dewatering plan. The plan(s) must be developed prior to initiation of any water diversions and will include the proposed method and duration of diversion activities. The plan(s) must be made available to Central Valley Water Board staff upon request.
- When work in a flowing stream is unavoidable and any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water will be allowed at all times to pass downstream to maintain beneficial uses of waters below the dam. Construction, dewatering, and removal of temporary cofferdams will not violate the turbidity, settle-able matter, pH, temperature, or dissolved oxygen requirements of any Water Quality Control Plan.
- Any temporary dam or other artificial obstruction will only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation. Stream flow will be temporarily diverted using gravity flow through temporary culverts or pipes, or pumped around the work site with the use of hoses.

**STREAM-5 (Design for Stream Channel Re-Routing, Widening, or Deepening):** When an Urban Development Covered Activity alters a stream, creek, or drainage by re-routing, widening, or deepening a channel, the project design will include the following:

- The main channel of a re-routed channel will be free to migrate laterally over its active and terrace floodplain.
- Channel geometry (plan, profile, and cross-section) of the site will be appropriate for the watershed location and physical/hydrologic condition.
- Local, native materials will be used as fill material to the extent practicable.
- Bioengineering techniques will be used for construction and maintenance of bank stabilization. Bioengineered bank stabilization structures will use vegetation in combination with bank reshaping; biodegradable geotextile materials; and, in some cases, a minimal amount of rock or wood to the extent practicable to dissipate erosive energy. Third-Party Project Proponents will consult a professional engineer when considering using bioengineering techniques.
- All re-routed, widened, or deepened streams are required to establish Stream Setbacks with minimum widths required under STREAM-1, STREAM-2, or STREAM-3. All re-routed, widened, or deepened streams must re-establish/

## Final South Sacramento Habitat Conservation Plan

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establish and maintain native Woody Riparian land cover and/or native Grassland Riparian land cover in the entire Stream Setback.

### 5.4.2 Covered Species Take Avoidance and Minimization Measures

The following section describes measures to avoid or minimize effects of Covered Activities on specific SSHCP Covered Species. Species-specific AMMs include species surveys, pre-construction surveys, and construction monitoring. Most species-specific AMMs require that species surveys be conducted if Covered Species modeled habitat is within the proposed Covered Activity footprint or within a specified distance of the proposed Covered Activity. Section 3.4 provides maps and descriptions of modeled habitat for each Covered Species. The AMMs described below apply to Covered Activities when Covered Species modeled habitat or a Covered Species occurrence are at a project site. The Implementing Entity and Wildlife Agencies may update specific SSHCP AMMs over the Permit Term to provide the best and most appropriate protective measures for a Covered Species.

#### General Covered Species Take Avoidance and Minimization Measures

The following AMMs will apply to all Covered Activities that are required to implement Covered Species take AMMs.

**SPECIES-1 (Litter Removal Program):** A litter control program will be instituted for the entire project site. All workers will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. All garbage will be removed from the project site at the end of each work day, and construction personnel will not feed or otherwise attract wildlife to the area where construction activities are taking place.

**SPECIES-2 (No Pets in Construction Areas):** To avoid harm and harassment of native species, workers and visitors will not bring pets onto a project site.

**SPECIES-3 (Take Report):** If accidental injury or death of any Covered Species occurs, workers will immediately inform the approved biologist or on-site monitor and site supervisor. The approved biologist or on-site monitor will phone the appropriate contact person at the Implementing Entity. The Implementing Entity will immediately contact the Wildlife Agencies by telephone. A memorandum will be provided to the Implementing Entity and Wildlife Agencies within 1 working day of the incident. The report will provide the date and location of the incident, number of individuals taken, the circumstances resulting in the take, and any corrective measures taken to prevent additional take.

## Final South Sacramento Habitat Conservation Plan

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**SPECIES-4 (Post-Construction Compliance Report):** A post-construction compliance report will be submitted to the SSHCP Implementing Entity within 30 calendar days of completion of construction activities or within 30 calendar days of any break in construction activity that lasts more than 30 days. The report will detail the construction start and completion dates, any information about meeting or failing to meet species take Avoidance and Minimization Measures (AMM), effectiveness of each AMM that was applied at the project site, and any known project effects to Covered Species.

### Rare Plants

**PLANT-1 (Rare Plant Surveys):** If a Covered Activity project site contains modeled habitat for Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), Legenere (*Legenere limosa*), pincushion navaretia (*Navaretia myersii*), or Sanford's arrowhead (*Sagittaria sanfordii*), the Covered Activity project site will be surveyed for the rare plant by an approved biologist and following the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* dated March 20, 2018 or the most recent CDFW rare plant survey protocols. An approved biologist will conduct the field surveys and will identify and map plant species occurrences according to the protocols. See Chapter 10 for the process to submit survey information to the Plan Permittee and the Permitting Agencies. The appropriate timing of surveys and use of reference populations is applicable to all covered rare plant species, as described in the 2018 CDFW survey protocol referenced above. For Bogg's Lake hedge-hyssop which is an annual plant with seed banks that may not germinate every year, the project proponent may be required to survey a project site for more than one year to substantiate negative findings if the previous year was either extremely dry or extremely wet (which may be found in the Department of Water Resources Water Supply Index Bulletin (<http://cdec.water.ca.gov/reportapp/javareports?name=WSI>)). However, if local reference populations of the species are detectable at the time of survey and none of the species are observed on a project site, a negative finding will be made.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

**PLANT-2 (Rare Plant Protection):** If a rare plant listed in AMM PLANT-1 is detected within an area proposed to be disturbed by a Covered Activity or is detected within 250 feet of the area proposed to be disturbed by a Covered Activity, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site.

# Final South Sacramento Habitat Conservation Plan

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## Giant Gartersnake

To avoid direct and indirect effects of Covered Activities on giant gartersnake (*Thamnophis gigas*), the following AMMs will be implemented.

**GGGS-1 (Giant Gartersnake Surveys):** If the SSHCP giant gartersnake modeled habitat maps (Figure 3-18) show that modeled habitat for giant gartersnake is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate giant gartersnake aquatic habitat within the project footprint and adjacent areas within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-18, giant gartersnake aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, agricultural ditches, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide these maps to the Land Use Authority Permittees and the Implementing Entity. Locations of delineated giant gartersnake habitat must also be noted on plans that are submitted to a Land Use Authority Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as giant gartersnake habitat is identified and fully avoided. Otherwise, Covered Activities must comply with GGS-2 through GGS-8, below. See Chapter 10 for the process to conduct and submit survey information.

**GGGS-2 (Giant Gartersnake Work Window):** Covered Activities that do not fully avoid giant gartersnake modeled habitat (Figure 3-18) will be conducted during the snake's active season. Construction and ground-disturbing activities will be initiated after May 1 and will end prior to September 15. If it appears that these activities may go beyond September 15, the Third-Party Project Proponent or Plan Permittee will contact the Land Use Authority Permittee and the Implementing Entity as soon as possible, but not later than September 1. The Land Use Authority Permittee and the Implementing Entity will discuss with the Wildlife Agencies additional measures necessary to minimize take. The additional measures would vary depending on where the work is occurring. For example, if the work outside the giant gartersnake active season is a continuation of work within a dewatered channel or within a disturbed area where no more than two days have passed without ground-disturbing activities, burrows are no longer expected to be occupied by giant gartersnake, therefore no additional measures may be necessary. However, if ground disturbing work will occur outside the giant gartersnake active season in an area that was not previously disturbed in the active season, or there has been no ground disturbance for more than two days, an approved biologist may be necessary on-site during earth moving activities, to monitor for giant gartersnake presence.

## Final South Sacramento Habitat Conservation Plan

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This AMM has been revised to reflect USFWS and/or CDFW permit conditions

**GG-3 (Giant Gartersnake Monitoring):** If a Covered Activity is occurring in giant gartersnake modeled habitat (Figure 3-18), an approved biologist experienced with giant gartersnake identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for giant gartersnake prior to these activities. If a giant gartersnake is encountered, refer to GGS-7. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a giant gartersnake enters an active construction zone (i.e., outside the buffer zone).

**GG-4 (Giant Gartersnake Habitat Dewatering and Exclusion):** If construction activities will occur in giant gartersnake aquatic habitat, aquatic habitat will be dewatered and then remain dry and absent of aquatic prey (e.g., fish and tadpoles) for 15 days prior to initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to giant gartersnake. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Giant gartersnake habitat outside construction fencing will be avoided by all construction personnel. The fencing and the work area will be inspected by the approved biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each work day. The fencing will be maintained by the contractor until completion of the project. If giant gartersnake is encountered, refer to GGS-7, below.

**GG-5 (Avoid Giant Gartersnake Entrapment):** If a Covered Activity occurs in giant gartersnake modeled habitat (Figure 3-18), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps at an angle of no more than 30 degrees constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All

## Final South Sacramento Habitat Conservation Plan

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construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within giant gartersnake modeled habitat will be inspected for giant gartersnake by the approved biologist prior to being moved. If a giant gartersnake is encountered, refer to GGS-7.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

**GGS-6 (Erosion Control Materials in Giant Gartersnake Habitat):** If erosion control (BMP-2) is implemented within giant gartersnake modeled habitat (Figure 3-18), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure snakes are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

**GGS-7 (Giant Gartersnake Encounter Protocol):** If a giant gartersnake is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the giant gartersnake within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service and CDFW immediately. Any worker who inadvertently injures or kills a giant gartersnake or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist. Any giant gartersnake observed during Covered Activities will be allowed to move away from danger on its own or be moved by the approved biologist with CDFW and USFWS approval to handle the snake and in accordance with the CDFW-approved Giant Gartersnake Relocation Plan detailed in AMM GGS-9.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

**GGS-8 (Giant Gartersnake Post-Construction Restoration):** After completion of ground-disturbing Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with an appropriate native seed mix. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the

## Final South Sacramento Habitat Conservation Plan

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Implementing Entity. Restoration work may include replanting emergent aquatic vegetation. Refer to the U.S. Fish and Wildlife Service's (USFWS) Guidelines for the Restoration and/or Replacement of Giant Gartersnake Habitat (USFWS 1997), or the most current USFWS guidelines at the time of the activity. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

The following giant gartersnake AMMs are conditions of the CDFW Incidental Take Permit. These AMMs are in addition to the previous AMMs. For example, relocation may not occur without notification and discussion with USFWS, as described in GGS-7 above.

**GG-9 (Giant Gartersnake Relocation Plan):** Project proponents shall prepare a Giant Gartersnake Relocation Plan (Relocation Plan) for Covered Activities occurring in giant gartersnake modeled habitat. Project proponents shall submit the Relocation Plan to the Land Use Authority Permittee or Implementing Entity, who will send it CDFW for written approval at least 30 days prior to the beginning of any Covered Activities. The Relocation Plan shall include, at a minimum, the proposed giant gartersnake capture and handling technique; a quantification of the amount, relative location, and quality of suitable habitat (aquatic and upland) within proposed relocation site(s) including invasive and non-native species present, available upland burrows for aestivation and high-water refugia, suitable prey items, and potential barriers for movement; written permission from the landowner to use their land as a relocation site; and identification of a wildlife rehabilitation center or veterinary facility that routinely evaluates or treats snakes and is permitted to handle giant gartersnake.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

**GG-10 (Giant Gartersnake Pre-construction Surveys):** If Covered Activities will occur within 200 feet of modeled giant gartersnake aquatic habitat, the approved biologist(s) shall conduct one pre-construction survey within 24 hours prior to beginning ground disturbing activities. The approved biologist(s) shall investigate all small mammal burrows within suitable upland habitat. The Project Area will be resurveyed whenever there is a lapse in construction activity of two weeks or more.

**This AMM has been revised to reflect USFWS and/or CDFW permit conditions**

# Final South Sacramento Habitat Conservation Plan

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## Western Pond Turtle

To avoid direct and indirect effects of Covered Activities on western pond turtle (*Actinemys marmorata*), the following AMMs will be implemented.

**WPT-1 (Western Pond Turtle Surveys):** If the SSHCP western pond turtle modeled habitat maps (Figure 3-19) show that modeled habitat for western pond turtle is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate western pond turtle aquatic and upland habitat within the project footprint and within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-19, western pond turtle aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, and rice fields. The approved biologist will search and monitor upland habitat for active nests, hatchlings, juveniles, and adults. Active upland nests may contain eggs for 96 to 104 days (from May through August), and may contain hatchlings that remain in the nest for many months, typically until the following March or April. Adults and juveniles also move to upland habitat when their aquatic habitat dries in late summer, and adult and juvenile western pond turtles commonly overwinter in uplands (from November to March). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide those maps to the Land Use Authority Permittees and the Implementing Entity. Locations of delineated western pond turtle habitat must also be noted on plans that are submitted to a Land Use Authority Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as western pond turtle habitat is identified and fully avoided. Otherwise, Covered Activities must comply with WPT-2 through WPT-9. See Chapter 10 for the process to conduct and submit survey information.

**WPT-2 (Western Pond Turtle Work Window):** Maintenance and improvements to existing structures may occur throughout the year as long as western pond turtle habitat is identified and avoided, and movement of equipment is confined to existing roads. Otherwise, construction and ground-disturbing Covered Activities must be conducted outside of western pond turtle's active season. Covered Activities will be initiated after May 1 and will commence prior to September 15. If it appears that these activities may go beyond September 15, the appropriate Plan Permittee will contact the Land Use Authority Permittee and the Implementing Entity as soon as possible, but not later than September 1, to determine if additional measures are necessary to minimize take.

## Final South Sacramento Habitat Conservation Plan

This AMM has been revised to reflect USFWS and/or CDFW permit conditions

**WPT-3 (Western Pond Turtle Monitoring):** If a Covered Activity is occurring in western pond turtle modeled habitat (Figure 3-19), an approved biologist experienced with western pond turtle identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while Covered Activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for western pond turtle prior to these activities. The approved biologist will also train construction or maintenance personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western pond turtle enters an active construction or maintenance zone (i.e., outside the buffer zone).

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**WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion):** If Covered Activities will occur in western pond turtle aquatic habitat, aquatic habitat for the turtle will be dewatered and then remain dry and absent of aquatic prey (e.g., crustaceans and other aquatic invertebrates) for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to western pond turtle. After aquatic habitat has been dewatered 15 days prior to Covered Activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent turtles from attempting to burrow or move under the fence into the work area. In addition, high-visibility fencing will be erected to identify work area limits and to protect adjacent habitat from encroachment of personnel and equipment. Western pond turtle habitat outside exclusionary fencing will be avoided by all construction or maintenance personnel. The fencing and work area will be inspected by the approved biologist to ensure that the fencing is intact and that no turtles have entered the work area before the start of each work day. Fencing will be maintained by the contractor or maintenance entity until completion of the project. If, after exclusion fencing and dewatering, western pond turtles are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will discuss the next best steps with the Implementing Entity and Wildlife Agencies.

This AMM has been revised to reflect USFWS and/or CDFW permit conditions

## Final South Sacramento Habitat Conservation Plan

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**WPT-5 (Avoid Western Pond Turtle Entrapment):** If a Covered Activity occurs within western pond turtle modeled habitat (Figure 3-19), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western pond turtle modeled habitat will be inspected for western pond turtle by the approved biologist prior to being moved.

**WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat):** If erosion control (BMP-2) is implemented within western pond turtle modeled habitat (Figure 3-19), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that turtles are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

**WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit):** Covered Activity construction and maintenance vehicles will observe a 20-mile-per-hour speed limit within western pond turtle modeled upland habitat (Figure 3-19).

**WPT-8 (Western Pond Turtle Encounter Protocol):** If a western pond turtle is encountered during Covered Activities, the approved biologist will notify the Wildlife Agencies immediately. Covered Activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the turtle, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a western pond turtle or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

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**WPT-9 (Western Pond Turtle Post-Construction Restoration):** After completion of Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes

## Final South Sacramento Habitat Conservation Plan

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such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation and placing appropriate artificial or natural basking areas in waterways and wetlands. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

### Swainson's Hawk

To avoid direct and indirect effects of Covered Activities on Swainson's hawk (*Buteo swainsoni*), the following AMMs will be implemented.

**SWHA-1 (Swainson's Hawk Surveys):** If modeled habitat for Swainson's hawk (Figure 3-25) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a survey to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Nest sites are often associated with Riparian land cover, but also include lone trees in fields, trees along roadways, and trees around structures. Nest trees may include, but are not limited to, Fremont's cottonwood (*Populus fremontii*), oaks (*Quercus* spp.), willows (*Salix* spp.), walnuts (*Juglans* spp.), eucalyptus (*Eucalyptus* spp.), pines (*Pinus* spp.), and Deodar cedar (*Cedrus deodara*). The Third-Party Project Proponent will map all existing and potential nesting sites and provide these maps to the Land Use Authority Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Land Use Authority Permittee. See Chapter 10 for the process to conduct and submit survey information.

**SWHA-2 (Swainson's Hawk Pre-Construction Surveys):** If existing or potential nest sites were found during surveys (SWHA-1), and construction activities will occur during the breeding season (March 1 through September 15), pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint. An approved biologist will conduct pre-construction surveys within 30 days and again within 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

## Final South Sacramento Habitat Conservation Plan

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**SWHA-3 (Swainson's Hawk Nest Buffer):** If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.

**SWHA-4 (Swainson's Hawk Nest Buffer Monitoring):** If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone).

**SWHA-5 (Swainson's Hawk Nest Tree Avoidance):** Project proponents shall avoid removal of Swainson's hawk nest trees active within the last 5 years, to the maximum extent practicable. Removal of occupied nest trees shall be timed outside of the Swainson's hawk nesting season, which would limit removal to October 1 through February 1, and shall not remove any occupied nest trees until the last young have fledged, as verified by the approved biologist. The Implementing Entity shall provide the number of Swainson's hawk nest trees removed each year, along with nest locations, in each Annual Report submitted to CDFW.

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# Final South Sacramento Habitat Conservation Plan

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## Western Burrowing Owl

To avoid direct and indirect effects of Covered Activities on western burrowing owl (*Athene cunicularia*), the following AMMs will be implemented.

**WBO-1 (Western Burrowing Owl Surveys):** Surveys within modeled habitat are required for both the breeding and non-breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, egg shell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species (California Burrowing Owl Consortium 1993). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250-foot buffer established by the approved biologist around suitable burrows. See Chapter 10 for the process to conduct and submit survey information.

**WBO-2 (Western Burrowing Owl Pre-Construction Surveys):** Prior to any Covered Activity ground disturbance, an approved biologist will conduct pre-construction surveys in all areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total), or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the Third-Party Project Proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are

## Final South Sacramento Habitat Conservation Plan

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found, the Third-Party Project Proponent may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction.

**WBO-3 (Western Burrowing Owl Avoidance):** If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:

***During Breeding Season:*** If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria:

- The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.
- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.

If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies.

If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and

## Final South Sacramento Habitat Conservation Plan

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Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.

The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the proposed construction monitoring plan within 21 days.

***During Non-Breeding Season:*** During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning over-wintering sites:

- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer.
- If the owls are gone for at least 1 week, the Third-Party Project Proponent may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.

Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

**WBO-4 (Western Burrowing Owl Construction Monitoring):** During construction of Covered Activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

**WBO-5 (Western Burrowing Owl Passive Relocation):** Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if

## Final South Sacramento Habitat Conservation Plan

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the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year Permit Term.

**WBO-6 (Western Burrowing Owl Timing of Maintenance Activities):** All activities adjacent to existing or planned Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.

**WBO-7 (Rodent Control):** Rodent control will be allowed only in developed portions of a Covered Activity project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

### Covered Raptor Species

To avoid direct and indirect effects of Covered Activities on covered raptor species, the following AMMs will be implemented. This measure applies to Cooper's hawk (*Accipiter cooperii*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*). The following AMMs do not apply to ferruginous hawk (*Buteo regalis*), as they do not nest in the Plan Area. The following AMMs also do not apply to Swainson's hawk or burrowing owl, as specific AMMs have been developed for these covered raptor species.

**RAPTOR-1 (Raptor Surveys):** If modeled habitat for a covered raptor species (Figures 3-20, 3-23, 3-24, or 3-28) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting sites are present within the

## Final South Sacramento Habitat Conservation Plan

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project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential nesting sites and provide these maps to the Land Use Authority Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Land Use Authority Permittee. See Chapter 10 for the process to conduct and submit survey information.

**RAPTOR-2 (Raptor Pre-Construction Surveys):** Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Pre-construction surveys will be conducted during the raptor breeding season. If a nest is present, then RAPTOR-3 and RAPTOR-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

**RAPTOR-3 (Raptor Nest/Roost Buffer):** If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged.

**RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring):** If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required

## Final South Sacramento Habitat Conservation Plan

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avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone).

### Western Red Bat

To avoid direct and indirect effects of Covered Activities on western red bat (*Lasiurus blossevillii*), the following AMMs will be implemented.

**BAT-1 (Maternity Roost Surveys):** If modeled habitat (Figure 3-30) for western red bat is present within 300 feet of a Covered Activity's project footprint, and a Covered Activity is proposed between May 1 and August 31 (when pre-flight/nursing young may be present), then an approved biologist will conduct a field investigation of the project footprint and adjacent areas within 300 feet of the project footprint to determine if a potential maternity roost is present, and to identify and map potential maternity roost sites. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If potential maternity roost sites are found, the Third-Party Project Proponent will note their locations on project designs and will design the project to avoid all areas within a 300-foot buffer around the potential maternity roost sites. As discussed in AMM BAT-3, maternity roost habitat is fully avoided if project-related activities do not impinge on a 300-foot buffer established by the approved biologist around an existing or potential maternity roost site. See Chapter 10 for the process for Covered Activity projects to conduct and submit project survey information.

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**BAT-2 (Maternity Roost Pre-Construction Surveys):** If the Third-Party Project Proponent elects not to avoid potential maternity roost sites within the project footprint plus a 300-foot buffer during May through August, additional western red bat surveys are required. Prior to any ground disturbance related to Covered Activities or staging of equipment in the project footprint, an approved biologist will conduct a pre-construction survey within 3 days of ground-disturbing activities (within the project footprint and 300 feet of the project footprint) to determine the presence of maternity roost sites. Pre-construction surveys will be conducted during the roosting season when pre-flight/nursing young may be present (May 1 through August 31). If a maternity roost is present, then AMM BAT-3 shall be implemented. The approved biologist will inform the Land Use Authority Permittee and SSHCP Implementing Entity (the South Sacramento Conservation Agency) of all roost sites and species locations, and they in turn will notify the Wildlife Agencies (USFWS and CDFW), and provide all survey information to the Wildlife Agencies.

## Final South Sacramento Habitat Conservation Plan

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**BAT-3 (Maternity Roost Buffer):** If active maternity roost sites are found within the project footprint or within 300 feet of the project footprint between May 1 and August 31, the Third-Party Project Proponent will establish a 300-foot temporary disturbance buffer around the active maternity roost site until bats have vacated the roost and the Wildlife Agencies concur that the roost is vacant.

Very few western red bats are expected to be present in the Action Area in the winter months (November 1 through March 31). However, if active winter hibernaculum sites are found within the project footprint or within 300 feet of the project footprint between November 1 and March 31, the Third-Party Project Proponent will establish the same 300-foot temporary disturbance buffer around the active winter hibernaculum site until bats have vacated the hibernaculum and the Wildlife Agencies concur that the hibernaculum is vacant..

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**BAT-4 (Bat Eviction Methods for Non-Maternity and Non-Hibernaculum Roosts):** An approved biologist will determine if non-maternity and non-hibernaculum day and night roosts are present on the project site. If direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided, the Third-Party Project Proponent will prepare a bat eviction plan, and inform the Land Use Authority Permittee and the SSHCP Implementing Entity (the South Sacramento Conservation Agency). They in turn shall inform the Wildlife Agencies, and provide the bat eviction plan for review. If necessary, the approved biologist may be allowed to remove the bats using safe-eviction methods acceptable to the Wildlife Agencies.

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