

Environmental Commitments /Avoidance and Minimization Measures (AMMs)

The following environmental commitments/avoidance and minimization measures will be implemented during implementation of construction-related activities associated with the Zacharias Ranch Mitigation Bank.

General Protection Measures

1. **Project Permits and Authorizations.** A copy of all applicable agency permits and authorizations will be maintained by the construction foreman/manager on the project site for the duration of construction activities. (PBO, GPM-1)
2. **Construction Work Windows.** General and in-water earth-moving work windows will be implemented in accordance with permits and authorizations and at minimum will be limited to the giant garter snake active period and non-rainy season within suitable habitat (May 1 through October 1); when working in tidally-connected open water of Snodgrass Slough and Railroad Cut the in-water work window will be restricted to the summer low-flow months (June 1 to November 1). (PBO, GPM-2, GGS-3)
Vegetation clearing, grubbing, and installation of erosion control measures that occur within habitat containing burrows, cracks, or underground structures (i.e., culverts) that are located within 100 feet of suitable giant garter snake aquatic habitat will be limited to daytime hours between 11:00 a.m. and 6:00 p.m., when snakes are most likely to be above ground and active. (PBO, GGS-7)
3. **Work during Daylight Hours.** Construction activities will generally be limited to daylight hours, to the extent practicable. If nighttime construction is necessary, including in tidally influenced waters where tides may limit daylight access and work schedules, all project lighting (e.g., staging areas, equipment storage sites, and construction footprint) will be selectively placed and directed onto the construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. If the work area is near surface waters, the lighting will be shielded so that it does not shine directly into the water. (PBO, GPM-3)
4. **Qualified Biologist and Agency-Approved Biologist.** Biological monitoring and construction oversight for the project will be provided by biologists at two different experience levels, depending on the activity.
 - a. **Qualified Biologist:** The Qualified Biologist is required to meet certain qualifications, as confirmed by the Project Proponent. Résumé review by the regulatory agencies is not required for the Qualified Biologist. Minimum

qualifications for the Qualified Biologist include a bachelor's degree in biological or environmental science, natural resources management, or related discipline; field experience in the habitat types that occur at the project site; familiarity with the species that may occur at the project site; and prior preconstruction survey, construction monitoring, or construction oversight experience.

- b. **Agency-Approved Biologist:** For some species (i.e, giant garter snake), additional qualifications may be required for biologists who would be responsible for species handling or relocation. These activities would be completed by an applicable Agency-Approved Biologist. Résumé(s) for the Agency-Approved Biologist(s) with experience in the identification of all life stages and ecology of the species for which coverage is requested will be submitted to the applicable wildlife agency for review and approval at least 30 days prior to any activity for which the protection measures indicate that an Agency-Approved Biologist is required. Because species handling and relocation of some species would be authorized by USFWS through issuance of a Programmatic Biological Opinion (PBO) and associated Incidental Take Statement, it may not be a requirement for the Agency-Approved Biologist to hold a federal Section 10(a)(1)(A) Recovery Permit to implement this role under PBO. However, it is noted that some presence/absence surveys that may be performed by an Agency-Approved Biologist may require that the person conducting those surveys hold a Section 10(a)(1)(A) Recovery Permit.
5. **Worker Environmental Awareness Training.** Prior to beginning work on the site, all contractors involved in project construction will be provided with resource-specific (i.e. sensitive species and habitats, cultural and tribal resources, Storm Water Pollution Prevention Plan [SWPPP]) protection measures to follow during implementation of the project. A Worker Environmental Awareness Training (WEAT) will be given to all construction personnel during the initial kickoff meeting and prior to equipment mobilization. The training will be presented by the environmental regulatory team consisting of a Qualified Biologist, certified archaeologist, tribal representative, and qualified SWPPP practitioner (QSP). Tailgate meetings related to environmental protection will occur weekly or on an as-needed basis to address specific issues or new personnel added to the job site. The WEAT will provide an overview of environmental sensitive resources that are known or have the potential to occur on site, their location and established exclusion zones, the protections afforded these resources by existing laws and regulations, and guidance on those specific protection measures that must be implemented as part of the project, including procedures to follow if a protected resource is encountered.

6. **Clearance Surveys and Environmental Monitoring.** A Qualified Biologist will perform site clearance surveys prior to the start of daily earthmoving activities that occur in or immediately adjacent to protected species habitats (e.g., riparian, emergent marsh, open water). The Qualified Biologist will monitor all vegetation clearing and grubbing activities that occur within suitable giant garter snake habitat (i.e., within 200 feet of suitable aquatic habitat). At minimum, the Qualified Biologist will conduct weekly site inspections to ensure that all applicable protection measures are implemented during construction. The Qualified Biologist will have the authority to stop work if they determine that any permit requirement is not fully implemented or if deemed necessary to protect sensitive species or resources. The Qualified Biologist will prepare and maintain a biological monitoring log of construction site conditions and observations, which will be kept on file. (PBO, GPM-5, REP-3)

An Agency-Approved biologist will be available on an on-call basis during activities with potential to affect giant garter snake. No snakes will be handled, moved, or relocated unless a Giant Garter Snake Rescue and Relocation Plan has been approved by the applicable wildlife agencies for the project (See protection measure 26. *Giant Garter Snake Rescue and Relocation Plan*).

7. **Work Area and Environmental Sensitive Areas.** Prior to initiating construction activities (including staging), brightly colored fencing, flagging, or other practical means will be erected to demarcate the limits of permitted project activities, including the boundaries of designated staging areas; stockpile areas for spoils disposal, soil, and materials; and sensitive resource exclusion zones (i.e., active bird nests, elderberry shrubs). Flagging or fencing will be maintained in good repair for the duration of project activities.

Where practicable, wildlife exclusion fencing will be installed around the perimeter of the active construction occurring within 200 feet of giant garter snake aquatic habitat to minimize the potential for giant garter snakes and other sensitive terrestrial species (i.e., western pond turtle) to enter the construction work area. The wildlife exclusion fencing will remain in place throughout the duration of the construction activities and will be inspected and maintained regularly by the Qualified Biologist until completion of the project. Repairs to the wildlife exclusion fencing will be made within 24 hours of discovery. When fencing is not practicable due to topography, soils, conflicts with construction activities, or other factors, monitoring by a Qualified Biologist during construction activities will be used in lieu of wildlife exclusion fencing. (PBO, GPM-6 and 7, REP-2, GGS-6)

8. **Minimize Vegetation Disturbance.** Disturbance to native vegetation will be limited to the construction area and necessary access routes and staging areas. Existing native vegetation will be retained as practicable, emphasizing the retention of shade-producing

and bank-stabilizing trees and brush with greater than 6-inch-diameter branches or trunks along existing riparian habitats and streambanks.

9. **Revegetation Methods.** Where disturbed, topsoil will be conserved for reuse during restoration, to the extent practicable. All temporarily disturbed areas will be de-compacted and seeded/planted with an assemblage of native riparian, wetland, and/or upland plant species suitable for the area. Plants for revegetation will come primarily from active seeding and planting, or from natural recruitment (e.g., in tidal landscapes disturbed areas typically revegetate more quickly through natural recruitment than through seeding). Nursery stock and seed will be sourced from the ecoregion. Only native plants will be used for restoration efforts. Certified weed-free native mixes and mulch will be used for any restoration planting or seeding. Revegetation activities in and adjacent to waterbodies and other aquatic habitat will commence after construction activities at the site are complete. Areas that will be subtidal will not be planted. To prevent colonization or recolonization by nonnative invasive species, any upland area barren of vegetation as a result of project implementation will be seeded or planted with native trees, shrubs, willow stakes, native grass seed mixes, or herbaceous plant species following completion of project construction. Seeding will occur prior to November 15 of the project year, or later depending on rainfall. Planting may occur later in the season as appropriate by species. All exclusion netting/caging placed around plantings will be removed after 2 years or sooner. Irrigation may also be required to ensure survival of containerized shrubs or trees or other vegetation, depending on rainfall. If irrigation is used, all irrigation materials will be removed once they are no longer needed. (PBO, PPM-15, VHDR-3, VHDR-4)
10. **Prevent Spread of Invasive Species.** The spread or introduction of nonnative invasive plant (e.g., those rated as invasive by the Cal-IPC, or local problem species) and animal species will be avoided to the extent possible. When practicable, nonnative invasive plants in the project area will be removed and properly disposed of in a manner that will not promote their spread. Invasive plant material will be destroyed using approved protocols and disposed of at an appropriate upland disposal. Stockpiling of invasive plant materials is prohibited during the flood season (typically November to April). To avoid spreading pathogens or nonnative invasive species, construction equipment will be cleaned of any sediment or vegetation at designated off-site wash stations before entering or leaving the project area. Isolated infestations of nonnative invasive species identified in the project area will be treated with weed management methods at an appropriate time to prevent further formation of seed and destroy viable plant parts and seed. Upland areas will use rice straw or weed-free local slash/mulch for erosion control; the remainder of the project area will use certified, weed-free erosion control materials. Invasive species BMPs will follow guidelines in the CDFW's *California Aquatic*

Invasive Species Management Plan (CDFW 2008) and *Aquatic Invasive Species Disinfection/ Decontamination Protocols* (CDFW 2016). Onsite construction personnel will be educated on the importance of controlling and preventing the spread of invasive weeds. (PBO, GPM-8 and VHDR-2)

11. **Staging Areas.** Staging areas will be established for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants. Fluids will be stored in appropriate containers with double containment, covers and will be properly recycled or disposed of off-site, per the project-specific SWPPP. Machinery stored on site will have pans or absorbent mats placed underneath potential leak areas. Staging areas will be at least 100 feet from bodies of water, unless site-specific circumstances do not provide such a setback; in such cases, the maximum setback possible will be used. Where feasible, staging will occur on access roads or other previously disturbed upland areas to avoid sensitive habitats and limit disturbance to surrounding habitats. If sensitive species are potentially present within the proposed staging area, the Qualified Biologist will survey the selected site to verify that no sensitive resources would be disturbed by staging activities. (PBO, GPM-10 and WQHM-1)
12. **Equipment Maintenance.** All construction equipment will be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment will be thoroughly inspected and evaluated for the potential of fluid leakage. Per the project-specific SWPPP, all mechanical equipment will be inspected on a daily basis to ensure there are no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks will be repaired in the equipment staging area with suitable containment or other suitable location prior to resumption of construction activity. Equipment stored for a lengthy period of time (more than one week on site) will have drip and leak pans placed underneath potential leak areas to contain accidental drips. (PBO, GPM-10)
13. **Speed Limits and Fugitive Dust Reduction.** To reduce dust, construction vehicle speeds will be limited to 20 miles per hour (mph) when traveling on unpaved surfaces. Speed limits within 200 feet of suitable giant garter snake aquatic habitat on unpaved surfaces will be limited to 15 mph. Drivers will stop for snakes encountered when driving onsite and wait for the snake to leave on its own or drive around, completely avoiding the snake.

Per the project-specific SWPPP, stockpiled materials susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material. During construction, water (e.g., trucks, and portable pumps with hoses) or other approved methods will be used to control fugitive dust. Dust suppression activities must not result in a discharge to waterbodies. (PBO, GPM-12 and GPM-6, GGS-4)

14. **Wildfire Prevention.** With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation. A fire prevention and suppression plan will be developed and implemented for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire. (PBO, GPM-16)
15. **Trash Removal.** During project activities all trash, especially food-related refuse that may attract potential predators or scavengers, will be properly contained in sealed containers, removed from the work site, and disposed of daily. (PBO, GPM-13)
16. **Post-Construction Cleanup.** Work pads and other construction items and debris will be removed from the site by the end of the construction window and deposited at an appropriate disposal or storage site. Removal of materials must not result in discharge to waterbodies. (PBO, GPM-11 and GPM-14)

Measures to Protect Water Quality and Limit Hazardous Materials

17. **Erosion Control Materials.** Per the project-specific SWPPP, erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. To prevent terrestrial wildlife from becoming entangled, trapped, or injured, plastic or synthetic monofilament erosion-control netting or similar material containing netting will not be used at the project site. Acceptable substitutes include natural fibers such as jute, coconut, twine, or tackified hydroseeding compounds.
18. **Storm Water Pollution Prevention Plan.** The project is required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Order for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Order). A site-specific storm water pollution prevention plan (SWPPP) will be prepared and implemented for the project, as required by the Construction General Order. The SWPPP will include site-appropriate best management practices (BMPs) to control erosion, spills, fugitive dust to reduce the potential release of water quality pollutants to receiving waters. (PBO, WQHM-2)
19. **Hazardous Materials Management Plan.** The hazardous materials management plan (HMMP) will be included in the project specific SWPPP and implemented by the construction contractor. The SWPPP will provide detailed information on the types of hazardous materials that could be used or stored onsite; phone numbers of applicable city, county, state, and federal emergency response agencies; primary, secondary, and final cleanup procedures; emergency-response procedures in case of a spill; and other applicable information. The HMMP will include appropriate practices to reduce the

likelihood of a spill of toxic chemicals and other hazardous materials during construction.

Any hazardous materials retained onsite will be stored within the designated staging area(s) with an impermeable membrane between the ground and hazardous material, designed to prevent the discharge of pollutants to groundwater and runoff water. (PBO, WQHM-4)

20. **Spill Prevention, Containment, and Countermeasure Plan.** The spill prevention, containment, and countermeasure plan (SPCCP) will be included in the project-specific SWPPP and implemented by the construction contractor to minimize effects from spills of oil or oil-containing products during project construction. The SWPPP will be developed in accordance with the regulatory requirements of Title 40 of the Code of Federal Regulations (CFR), Part 112, or the Spill Prevention, Control, and Countermeasure Rule under the Oil Pollution Act of 1990, which includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters of the United States and adjoining shorelines. The SPCCP will address actions used to prevent spills in addition to specifying actions that will be taken should any spills occur, including emergency notification procedures. (PBO, WQHM-4)
21. **In-Water Work Access.** If work requires that construction equipment enter wetlands or below the banks of a Water of the US, equipment with low ground pressure will be used to minimize soil compaction. Low-ground-pressure heavy equipment mats will be used, if needed to lessen soil compaction. Hydraulic fluids in mechanical equipment working in the waters of the United States or any other sensitive species aquatic habitat will not contain organophosphate esters. The amount of time this equipment is stationed, working, or traveling in the waters of the United States or other sensitive species aquatic habitat will be minimized. All equipment will be removed from the aquatic feature during nonwork hours or returned to the staging area. (PBO, IWW-2)

Measures to Protect Habitat and Aquatic Species during In-Water Work

22. **Cofferdam Construction.** Cofferdams may be installed both upstream and downstream, and along portions of the cross section of a channel or other waterway, if necessary to isolate the extent of the work areas. Construction of cofferdams will begin in the upstream area and continue in a downstream direction, enabling water to drain and allowing fish and aquatic wildlife species to leave (under their own volition) the area being isolated by the cofferdam, prior to closure. The flow will then be diverted only when construction of the upstream dam (if necessary) is completed and the work area has been naturally drained of flow; at this point, the downstream dam (if necessary) would be completed, and flow would be diverted around the work area. Cofferdams and

stream diversion systems will remain in place and fully functional throughout the construction period.

To minimize adverse effects to sensitive aquatic species, stream diversions will be limited to the shortest duration necessary to complete in-water work. In-water cofferdams will only be built from materials such as sandbags, clean gravel, rubber bladders, vinyl, steel, or earthen fill, and will be built in a manner that minimizes siltation and/or turbidity. Cofferdams will be pushed into place.

When appropriate, cofferdams will be removed so that surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than 1 inch per hour. Cofferdams in tidal waters will be removed during the lowest possible tide and in slack water to minimize disturbance and turbidity. This will minimize the probability of fish and other aquatic species stranding as the area upstream becomes dewatered. All dewatering/diversion facilities will be installed so that natural flow is maintained upstream and downstream of project areas. An area may need to be dewatered long enough to allow sensitive species (i.e., giant garter snake) to leave on their own before final clearance surveys and construction can begin. (PBO, IWW-5)

Measure to Protect Terrestrial Wildlife and Plants

23. Pre-construction Nesting Bird Surveys. A Qualified Biologist will conduct nesting bird surveys prior to the start of construction activities, including grubbing, that occur between March 1 and August 31. A minimum of two separate surveys will be conducted to look for active nests of migratory birds, including raptors within and adjacent to the construction area. Surveys will include a search of all trees, shrubs, and ground vegetation within the project footprint. In addition, a 0.25-mile area from the project would be surveyed for nesting raptors to identify raptor species that could be affected by construction disturbances, particularly special-status raptors (i.e., Swainson's hawk). In areas where access is not permitted, the biologist will use binoculars and spotting scopes to inspect any potential nest trees, particularly large trees and snags. Surveys should occur during the height of the breeding season (March 1 to June 1), with one survey occurring within 48 hours prior to the start of construction. Additional surveys may be required as the location of active construction moves to different areas of the project site.

If no active nests are detected during these surveys, no additional protection measures are required.

24. No-Disturbance Buffers for Active Bird Nests. If an active nest is found in the survey area, a no-disturbance buffer would be established to avoid disturbance or destruction of the nest site until the end of the breeding season (September 30) or until after a

qualified wildlife biologist determines that the young have fledged and moved out of the construction area (this date varies by species). The extent of these buffers would be determined by the Qualified Biologist in coordination with any applicable agencies (as determined by species) and would depend on the level of noise or construction disturbance taking place, line-of-sight between the nest and the disturbance, developmental stage of nestlings, ambient levels of noise and other non-project disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species; however, a minimum of 50 feet for songbirds and 300 feet for raptors is typical. Nest monitoring will be conducted on an as needed basis to supplement no-disturbance buffers and avoid adverse effects on nesting birds.

25. **Terrestrial Species Entrapment Prevention.** To prevent the accidental entrapment of terrestrial wildlife species (including giant garter snake and western pond turtle) during construction, all excavated, steep-walled holes or trenches will include one or more escape ramps (e.g., fill dirt or wood planking) installed at an angle no greater than 30 degrees, to allow wildlife to escape. Before holes or trenches are filled, sealed, or collapsed, the holes or trenches will be thoroughly inspected for trapped animals. If pipes are stored on site or in associated staging areas, they will be capped when not in use or stored above ground level at an appropriate height to minimize species entrapment and will be inspected before being moved. Any animals discovered will be allowed to escape voluntarily or will be relocated by an agency-approved biologist. (PBO, ASP-4)

26. **Preconstruction Giant Garter Snake and Western Pond Turtle Survey.** A Qualified Biologist will conduct preconstruction surveys for giant garter snake and western pond turtle within 72 hours prior to any initial ground disturbance in all suitable habitat in or adjacent to the project site within accessible habitat to identify locations where the species may be present, evaluate current activity status in the project area, and protect the species and its habitat from avoidable construction-related disturbance. The intent of the survey is to assess current species habitat and use locations in the project area immediately prior to construction. The preconstruction survey is not intended to be a presence/absence or protocol-level survey. Preconstruction surveys may be phased across a project site to correspond to areas with active construction. Only areas where disturbance is imminent need to be surveyed. The project area will be reinspected by a Qualified Biologist whenever a lapse in construction activity of 5 days or greater has occurred. (PBO, ASP-2 and REP-1)

27. **Giant Garter Snake Observations and Rescue and Relocation Plan.** A Giant Garter Snake Rescue and Relocation Plan will be prepared for the project and provided to the appropriate wildlife agencies (i.e., USFWS and CDFW) for review and approval at least

30 days before initiating construction. The Rescue and Relocation Plan will include the following guidance:

- a. Speed limits within 200 feet of suitable giant garter snake aquatic habitat on unpaved surfaces will be limited to 15 mph. Drivers will stop for snakes encountered when driving onsite and wait for the snake to leave on its own or drive around, completely avoiding the snake.
- b. To the extent possible, contact with a giant garter snake will be avoided and the animal will be allowed to move out of the project footprint and hazardous situation on its own, to a safe location. This only applies to situations where the animal is encountered while moving through suitable habitat and under conditions that will allow it to escape. This does not apply to an individual snake that is uncovered or otherwise exposed or in an area where there is not enough adjacent habitat to support its life history if they move outside the construction footprint.
- c. If a giant garter snake is encountered in the project area and does not move out of the project footprint and hazardous situation on its own, all activities that have the potential to result in the harm, injury, or death of the individual shall cease in within 200 feet of the snake. The Agency-Approved Biologist will be notified immediately and will assess the situation to select the course of action that will minimize adverse effects to the individual.
- d. If a giant garter snake is encountered in the project area and is not moving or is in a borrow or other refugia then the animal will be left undisturbed, and the occupied area will be marked for avoidance by construction equipment. The snake will be monitored by an Agency-Approved Biologist to ensure avoidance until the animal moves out of the construction area on its own.
- e. If avoidance is not practicable or safe for a giant garter snake encountered within the project area and relocation is the only option to prevent its death or injury, then the following guidance for handling and relocation will be implemented.
 - i. A snake should not be moved outside of the area where it could have traveled on its own. Captured snakes will be released in appropriate cover as close to their capture location as possible for their continued safety. Under no circumstances will a snake be relocated to another property without the property owner's written permission.
 - ii. Release locations will be pre-identified in the Rescue and Relocation Plan and will depend on where the individual was found and the opportunities for nearby release. In most situations, the release location is likely to be into the mouth of a small burrow, other suitable refugia, or suitable habitat.

- iii. Only an Agency-Approved Biologist for the project can capture giant garter snakes. (PBO, REP-5, GGS-11)

- 28. Dewatering Habitat for Giant Garter Snake.** Where appropriate to protect giant garter snake, aquatic habitat for the giant garter snake will be dewatered prior to ground disturbance in suitable aquatic habitat and remain dewatered and absent of aquatic prey for 48 hours prior to the initiation of construction activities. This approach may be most appropriate where habitats to be dewatered are relatively small compared to adjacent habitats or where the work areas will be isolated within coffer dams. If complete dewatering is not possible, the water feature will be thoroughly inspected by a Qualified Biologist prior to the commencement of construction. If snakes are found, the Agency-Approved Biologist will implement the approved Giant Garter Snake Rescue and Relocation Plan (See protection measure 25 Giant Garter Snake Rescue and Relocation Plan). Engineering controls will be instituted as appropriate to prevent snakes from being entrained by the suction of large pumps used in dewatering. Such controls may include installation of a wire cage to create an area of separation between the water body and the intake. A Qualified Biologist will be present during the initial dewatering activities and will periodically inspect the aquatic habitat being dewatered to confirm that it remains dry and incapable of supporting aquatic giant garter snake prey. (PBO, GGS-10)
- 29. Preconstruction Surveys for Special-Status Plant Species.** A qualified botanist will conduct preconstruction surveys for special-status plant species in suitable habitat subject to ground-disturbing activities. The surveys will coincide with the identification period of special-status species with potential to occur onsite and will be conducted no more than one year prior to the start of construction.
- 30. Avoid and Minimize Impacts on Special-Status Plants.** To the extent possible, the location of access roads, staging areas, and restoration activities will be adjusted to avoid impacts on any documented special-status plant populations that are discovered prior to or during construction.
- Prior to ground-disturbing activities, the extent of special-status plant observations identified during preconstruction surveys will be demarcated using flagging or fencing, as site appropriate.
- Where special-status plants cannot be avoided during construction, impacts will be minimized by reducing the work area to the smallest area necessary to complete the work. Where temporary disturbance is necessary, project activities and necessary ground disturbance will be conducted in a manner that is consistent with the successful reestablishment of the species to the extent possible.
- 31. Restore Habitat for Special-Status Plants Disturbed during Construction.** If impacts on special-status plants are unavoidable, revegetation material will be salvaged prior to

disturbance and used during revegetation following restoration activities. Seed, propagules, and/or rhizomes of impacted special-status plant species shall be collected, as appropriate, under the direction of the qualified botanist from at least 50 percent of plants impacted. Harvested plant seeds or other material shall be stored in a manner suited to the species. Following restoration activities, the collected seeds and propagules shall be planted into suitable habitat within the conserved project footprint.

Measures to Protect Cultural Resources

- 32. Cultural Resources Sensitivity Training.** Before Project construction, a qualified archaeologist, defined as one who meets the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology and has expertise in California archaeology, and a Tribal representative, shall develop a cultural resources awareness and sensitivity training program for all construction and field workers involved in the Project's ground-disturbing activities. The qualified archaeologist shall develop this program in coordination with culturally and geographically affiliated California Native American Tribes. The program shall include a presentation that covers, at a minimum, the types of cultural resources common to the area, regulatory protections for cultural resources and tribal cultural resources, and the protocol for unanticipated discovery of archaeological resources and human remains, including those that may qualify as tribal cultural resources. Written materials associated with the program shall be provided to Project personnel as appropriate. Personnel working in areas of Project ground-disturbing activities shall receive the training before working in these areas.
- 33. Cultural Resources Construction Monitoring.** A qualified archaeologist, in consultation with the CEQA lead agency and any interested culturally and geographically affiliated California Native American Tribes (Tribes), shall develop a Cultural Resources Monitoring Plan (CRMP) to describe the purpose, locations, methods (including inadvertent discovery protocol [see measures 31 and 32]) and reporting requirements for cultural resources construction monitoring. The construction monitoring shall focus on project-related ground-disturbing activities and shall include, at a minimum, spot-checks of the major ground-disturbing project-related activities. The monitoring shall be conducted by a qualified archaeologist and culturally and geographically affiliated Tribes that the CEQA lead agency invites to participate. Participating Tribes shall be compensated. Daily monitoring logs shall be prepared detailing the monitoring activities and findings. A Cultural Resources Monitoring Results Report (CRMRR) summarizing the results of the monitoring shall be prepared by a qualified archaeologist. The CRMRR shall be submitted to the California Historical Resources Information System (CHRIS) repository for the project area upon approval by the CEQA lead agency unless the document

contains information that any Tribes involved in its development determine should not be filed with the CHRIS, in which case the report shall be submitted to the California Native American Heritage Commission (NAHC) upon review and approval by the CEQA lead agency. If any archaeological resources are inadvertently discovered during project-related construction activities, the procedures outlined in measures 32 and 33 shall be followed.

- 34. Unanticipated Discovery Protocol for Archaeological and Potential Tribal Cultural Resources.** If archaeological resources are encountered by construction personnel during Project construction, all construction activities within 100 feet shall halt and the find shall be flagged for avoidance. The federal lead agency, CEQA lead agency, and a qualified archaeologist, shall be immediately informed of the discovery. The qualified archaeologist and Tribal representative shall inspect the discovery and notify the federal lead agency and CEQA lead agency of their initial assessment. If they determine that the resource is or is potentially indigenous in origin, the federal lead and CEQA lead agency shall consult with California Native American Tribes (Tribes) culturally and geographically affiliated with the project area to assess the find and determine whether it potentially qualifies as an historic property (including traditional cultural property) (pursuant to the National Historic Preservation Act [NHPA]), an historical resources (pursuant to CEQA), and/or a tribal cultural resource (pursuant to CEQA). If the federal lead agency and CEQA lead agency determine based on recommendations from the qualified archaeologist and Tribal representative—and, if the resource is indigenous, from Tribes—that the resource may qualify as an historic property (including traditional cultural property) (pursuant to NHPA), historical resource (pursuant to CEQA), unique archaeological resource (pursuant to CEQA), or tribal cultural resource (pursuant to CEQA), then the resource shall be avoided if feasible. If avoidance of an identified indigenous resource is not feasible, the federal lead agency and CEQA lead agency shall consult with a qualified archaeologist, Tribes, and other appropriate interested parties to determine treatment measures to minimize or resolve/mitigate any potential effects/impacts on the resource pursuant to the NHPA and CEQA.
- Once treatment measures have been determined, the federal lead agency and CEQA lead agency shall prepare and implement an archaeological (and/or tribal cultural) resources management plan that outlines the treatment measures for the resource. Treatment measures typically consist of the following steps:
- a. Determine whether the resource qualifies as an historic property (including traditional cultural property) (pursuant to the NHPA), historical resource (pursuant to CEQA), unique archaeological resource (pursuant to CEQA), or tribal cultural resource (pursuant to CEQA) through analysis that could include

additional historical or ethnographic research, evaluative testing (excavation), or laboratory analysis.

- b. If the resource qualifies as an historic property (but not a traditional cultural property) (pursuant to the NHPA), historical resource (pursuant to CEQA), and/or unique archaeological resource (pursuant to CEQA), implement measures for avoiding or reducing impacts such as the following:
 - i. Modify the action to avoid impact on resources.
 - ii. Plan parks, green space, or other open space to incorporate resources.
 - iii. Recover the scientifically consequential information from the archaeological resource before any excavation at the resource's location. This typically consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the action.
 - iv. Develop and implement interpretive programs or displays.
 - a. If the resource qualifies as a traditional cultural property (pursuant to the NHPA), or tribal cultural resource (pursuant to CEQA), implement measures for avoiding or reducing impacts such as the following:
 - i. Avoid and preserve the resource in place through measures that include but are not limited to the following:
 - Plan and construct the action to avoid the resource and protect the cultural and natural context.
 - Plan green space, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
 - ii. Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, through measures that include but are not limited to the following:
 - Protect the cultural character and integrity of the resource.
 - Protect the traditional use of the resource.
 - Protect the confidentiality of the resource.
 - iii. Implement permanent conservation easements or other interests in real property, with cultural appropriate management criteria for the purposes of preserving or using the resource or place.
- c. Any technical report developed as part of this mitigation measure shall meet the U.S. Secretary of the Interior's Standards for archaeological technical reporting and shall be submitted to the appropriate California Historical Resources Information System (CHRIS) repository for the Project Area upon approval by the

CEQA lead agency unless the document contains information that any Tribes involved in its development determine should not be filed with the CHRIS, in which case the report shall be submitted to the California Native American Heritage Commission (NAHC).

35. Unanticipated Discovery Protocol for Human Remains. If human remains are encountered during construction activities, all work shall immediately halt within 100 feet of the find and the federal lead agency and/or CEQA lead agency shall contact the appropriate county coroner to evaluate the remains and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the coroner determines that the remains are Native American in origin, the appropriate county shall contact the NAHC, in accordance with California Health and Safety Code Section 7050.5(c) and California Public Resources Code (PRC) Section 5097.98. Per PRC Section 5097.98, the CEQA lead agency shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, of the location of the Native American human remains is not damaged or disturbed by further development activity until the CEQA lead agency has discussed and conferred, as prescribed in PRC Section 5097.98, with the most likely descendants and the property owner regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Any technical report developed as part of this mitigation measure shall meet the U.S. Secretary of the Interior's Standards for archaeological technical reporting and shall be submitted to the NAHC and the appropriate CHRIS repository for the Project Area upon approval by the CEQA lead agency unless the document contains information that any Tribes involved in its development determine should not be filed with the CHRIS, in which case the report shall be submitted only to the NAHC.