

Attachment B

Environmental Protection Measures

TABLE 1
SUMMARY OF THE SRGO PROTECTION MEASURES AND REVISIONS APPLICABLE TO THE PROJECT

SRGO – Protection Measures	SRGO Protection Measure – Revised for Project-specific Implementation	Rationale for Revisions
General Protection Measures (GPM)		
GPM-1: Receipt and Copies of All Permits and Authorizations	Work will not begin until all necessary permits and authorizations have been received (e.g., USACE, USFWS, NMFS, State and Regional Boards, CDFW). The project proponent will ensure that a readily available copy of the applicable agency permits and authorizations (e.g., USFWS Biological Opinion, NMFS Biological Opinion, Section 404 permit, etc.) is maintained by the construction foreman/manager on the project site for the duration of project activities.	--
GPM-2: Construction Work Windows	Construction work windows may be required in order to avoid impacts to aquatic resources and associated beneficial uses during the wet season. Project proponents must also follow the applicable Regional Board's construction work windows, unless otherwise approved.	--
GPM-3: Construction Hours	Construction activities will generally be limited to daylight hours, to the extent feasible. 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, roadway, and construction footprint) will be selectively placed and directed onto the roadway or construction site and away from aquatic habitats. Light glare shields will be used to reduce the extent of illumination into aquatic habitats. If the work area is near surface waters, the lighting will be shielded so that it does not shine directly into the water.	--
GPM-4: Environmental Awareness Training	For projects occurring in aquatic resources (e.g., wetlands, riparian areas, etc.), prior to engaging existing or new personnel in construction activities, new construction personnel will participate in environmental awareness training conducted by an agency-approved biologist or resource specialist. Construction personnel will be informed regarding the identification, potential presence, legal protections, avoidance and minimization measures, and applicable general protection measures for all aquatic resources with the potential to occur within or immediately adjacent to the project site. Construction personnel will be informed of the procedures to follow should aquatic resources be disturbed during construction activities. For projects where the agency-approved biologist or resource specialist is not regularly on the project site, training may be provided via online/web-based meeting with an interactive portion (e.g., web-based or in-person discussion) to be included during remote training sessions. For projects that may continue over an extended duration and require excessive training events, a training video developed under the supervision of the FWS-approved biologist or resource specialist may be used to train new personnel, as long as an FWS-approved biologist or resource specialist is available via phone to answer questions about the training or that may arise during construction.	Project would not occur over an extended duration and would not necessitate consultation with the U.S. Fish and Wildlife Service (FWS)
GPM-5: Environmental Monitoring	As required in the NOA, a resource specialist will ensure that all applicable protective measures are implemented during project construction. The resource specialist will have authority to stop any work if they determine that any permit requirement is not fully implemented. The resource specialist will prepare and maintain a monitoring log of construction site conditions and observations, which will be kept on file.	--
GPM-6: Work Area and Speed Limits	Construction work and materials staging will be restricted to designated work areas, routes, staging areas, temporary interior roads, or the limits of existing roadways. Prior to initiating construction or grading activities, brightly colored fencing or flagging or other practical means will be erected to demarcate the limits of the project activities, including the boundaries of designated staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones. Flagging or fencing will be maintained in	--

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	good repair for the duration of project activities. Vehicles will obey posted speed limits on public roadways and will limit speeds to 20 miles per hour (mph) within the project area on unpaved surfaces and unpaved roads (to reduce dust and soil erosion) or in areas where special-status species have the potential to occur. Speeds greater than 20 mph may be permitted in the project area where special-status species are not expected to occur (e.g., within areas from which special-status species have been excluded) and where there is no risk of generating excessive dust (e.g., surfaces are paved, saturated, or have been treated with other measures to prevent dust).	
GPM-7: Environmentally Sensitive Areas	Monitoring, flagging, or fencing will be used, where appropriate, to minimize disturbance to environmentally sensitive areas (e.g., waters and wetlands). If fencing is used: • Fencing used must be approved by CDFW and/or USFWS for compatibility with species under their jurisdiction, as applicable, that may occur on site. • The agency-approved biologist or resource specialist will determine the location of fencing prior to the start of construction (e.g., between active work area(s) and sensitive resources). • Fencing will remain in place throughout the duration of the construction activities and will be inspected and maintained regularly by the agency-approved biologist or resource specialist until completion of the project. • Repairs to the fencing will be made within 24 hours of discovering any failure. • Fencing will be removed when all construction equipment is removed from the site, the area is cleared of debris and trash, and the area is returned to natural conditions.	--
GPM-8: Prevent Spread of Invasive Species	The spread or introduction of invasive exotic plant species by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas will be removed and properly disposed of in a manner that will not promote their spread. Equipment will be cleaned of any sediment or vegetation at designated wash stations before entering or leaving the project area to avoid spreading pathogens or exotic/invasive species. Isolated infestations of noxious weeds identified in the project area will be treated with approved eradication methods at an appropriate time to prevent further formation of seed and destroy viable plant parts and seed. Wash sites must be in confined areas that limit run-off to any surrounding habitat and on a flat grade. Upland areas will use rice straw or invasive species-free local slash/mulch for erosion control, while the remainder of the project area will use certified, weed-free erosion control materials. Mulch must be certified weed-free. The project proponent will follow the guidelines in the CDFW's California Aquatic Invasive Species Management Plan (CDFW 2008) and Aquatic Invasive Species Disinfection/Decontamination Protocols (CDFW 2016), where relevant. Construction supervisors and managers will be educated on weed identification and the importance of controlling and preventing the spread of noxious weeds. The project proponent will follow any applicable local guidance to prevent the spread of invasive animal species. Construction supervisors and managers will be responsible for implementation of appropriate protocols (e.g., disinfection of equipment and footwear) to prevent the spread of invasive animals.	--
GPM-9: Practices to Prevent Pathogen Contamination	The project proponent will review and implement restoration design considerations and best management practices as published by the Working Group for <i>Phytophthora</i> in Native Habitats (www.calphytos.org), when there is a risk of introduction and spread of plant pathogens in site plantings. (http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthora-in-native-habitats/resources/#restoration.)	--

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GPM-10: Equipment Maintenance and Materials Storage	Vehicle traffic will be confined to existing roads and the proposed access route(s). All machinery must be in good working condition, showing no signs of fuel or oil leaks. Oil, grease, or other fluids will be washed off at designated wash stations prior to equipment entering the construction site. Inspection and evaluation for the potential for fluid leakage will be performed daily during construction. Where possible, and where it would not result in greater impact to aquatic resources, no equipment refueling, or fuel storage will take place within 100 feet of a body of water. All fuel and chemical storage, servicing, and refueling will be done in an upland staging area or other suitable location (e.g., barges) with secondary containment to prevent spills from traveling to surface water or drains. Project proponents will establish staging areas for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be located in upland areas to the extent possible and at least 100 feet from bodies of water unless site-specific circumstances do not provide such a setback or would result in further damage to sensitive resources, in which case the maximum setback possible will be used. Fluids will be stored in appropriate containers with covers and properly recycled or disposed of offsite. Machinery stored on site will have pans or absorbent mats placed underneath potential leak areas as a precautionary measure to further reduce the potential for impact from an unintended or previously undetectable leak.	--
GPM-11: Material Disposal	All refuse, debris, unused materials, and supplies that cannot reasonably be secured will be removed daily from the project work area and deposited at an appropriate disposal or storage site. All construction debris will be removed from the project work area immediately upon project completion. The Water Quality and Hazardous Materials measures (below), will be implemented as applicable to ensure proper handling and disposal of hazardous materials.	--
GPM-12: Fugitive Dust Reduction	To reduce dust, construction vehicles will be speed restricted as described in GPM-6, <i>Work Area and Speed Limits</i> when traveling on non-paved surfaces. 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, as necessary. Dust suppression activities must not result in a discharge to waters of the state unless such discharges are approved by the State or Regional Board.	--
GPM-13: Trash Containment and Removal	During project activities all trash will be properly contained within sealed containers and removed from the work site and disposed of as necessary to maintain a trash-free work area (e.g., trash containers will not be used beyond capacity and fully close/seal).	--
GPM-14: Project Cleanup after Completion	Work pads, temporary falsework, and other construction items will be removed from the 100-year floodplain by the end of the construction window. Removal of materials must not result in discharge to waterbodies.	--
Water Quality and Hazardous Materials (WQHM)		
WQHM-1: Staging Areas and Stockpiling of Materials and Equipment	Staging, storage, and stockpile areas must be outside of waters of the state. To the extent feasible, staging will occur on access roads or other previously disturbed upland areas, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation, to avoid aquatic habitats and limit disturbance to surrounding habitats. Similarly, all maintenance equipment and materials (e.g., road rock and project spoil) will be restricted to the existing service roads, paved roads, or other determined designated staging areas. See GPM-10 for more details regarding protection measures for materials storage.	--

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	Staging areas will be established for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be located 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. If an off-road site is chosen and if special-status species are potentially present, the Biological Monitor will survey the selected site to verify that no aquatic resources would be disturbed by staging activities. Stockpiling of materials, portable equipment, vehicles and supplies (e.g., chemicals), will be restricted to the designated construction staging areas. If rain is predicted in the forecast during the dry season, and stockpiled soils will remain exposed and unworked for more than 7 days, then erosion and sediment control measures must be used. If there is a high-wind scenario (to be defined by the approving Water Board as appropriate for an individual project site), then soils will be covered at all times. During the wet season, no stockpiled soils will remain exposed, unless properly installed and maintained erosion and sediment controls are in place on and around the stockpile. Temporary stockpiling of material onsite will be minimized. Stockpiled material will be placed in upland areas far enough away from aquatic habitats that these materials cannot discharge to a water of the state.	
WQHM-3: Erosion and Sediment Control Measures	For projects that do not require coverage under a NPDES permit per GPM WQHM-2, the project proponent will develop and implement erosion and sediment control measures (or plan), which will include appropriate BMPs to reduce the potential release of water quality pollutants to receiving waters. BMPs may include the following measures: •Employ tackifiers, soil binders, or mulch as appropriate for erosion control. •Install sediment control measures, such as straw bales, silt fences, fiber rolls, or equally effective measures, at repair areas adjacent to stream channels, drainage canals, and wetlands, as needed. Sediment control measures will be monitored during and after each storm event for effectiveness. Modifications, repairs, and improvements to sediment control measures will be made as needed to protect water quality. •No sediment control products will be used that include synthetic or plastic monofilament or cross-joints in the netting that are bound/stitched (such as straw wattles, fiber rolls, or erosion control blankets), and which could trap snakes, amphibians, and other wildlife.	--
WQHM-4: Hazardous Materials Management and Spill Response Plan	As part of the SWPPP or Erosion Control Plan (WQHM-2 and WQHM-3), project proponent will prepare and implement a hazardous materials management and spill response plan. Project proponent will ensure that any hazardous materials are stored at the staging area(s) with an impermeable membrane between the ground and hazardous material and that the staging area is designed to prevent the discharge of pollutants to groundwater and runoff water. Project proponent will stop work, follow the spill response plan, and arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills. (See WQHM-6. <i>Accidental Discharge of Hazardous Materials</i> for accidental discharges of a reportable quantity of a hazardous material, sewage, or an unknown material.) Project proponent will notify regulatory agencies within 24 hours of any leaks or spills. Project proponent will properly contain and dispose of any unused or leftover hazardous products off-site. Project proponent will use and store hazardous materials, such as vehicle fuels and lubricants, in designated staging areas located away from stream channels and wetlands, according to local, state, and federal regulations, as applicable. Also see GPM-10: <i>Equipment Maintenance and Materials Storage</i> for more detail on spill prevention.	--

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WQHM-6: Accidental Discharge of Hazardous Materials	Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271): As soon as (A) discharger has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then: • first call – 911 (to notify local response agency) • then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911 • Lastly, follow the required OES procedures as set forth in: http://www.caloes.ca.gov/FireRescueSite/Documents/CalOESSpill_Booklet_Feb2014_FINAL_BW_Acc.pdf • Following notification to OES, the discharger will notify the State or Regional Board (and other agencies requiring notification in their respective permits), as soon as practicable (ideally within 24 hours). Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.	--
Vegetation/Habitat Disturbance and Revegetation (VHDR)		
VHDR-1: Avoidance of Vegetation Disturbance	The project proponent will minimize, to the greatest extent feasible, the amount of soil, terrestrial vegetation, and emergent native vegetation, and submerged vegetation (e.g., eelgrass and kelp in marine areas, or submerged aquatic vegetation in brackish and freshwater areas) disturbed during project construction and completion and using methods creating the least disturbance to vegetation. Disturbance to existing grades and native vegetation, the number of access routes, the size of staging areas, and the total area disturbed by the project will be limited to the extent of all temporary and permanent impacts as defined by the final project design. All roads, staging areas, and other facilities will be placed to avoid and limit disturbance to waters of the state and other aquatic habitats (e.g., streambank or stream channel, riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/or work will be performed from the top of the creek banks or from barges on the waterside of the stream or levee bank, or dry gravel beds. Existing native vegetation will be retained as practicable, emphasizing the retention of shade-producing and bank stabilizing trees and brush with greater than 4-inch-diameter diameter at breast height (DBH) 6-inch-diameter branches or trunks. Where possible, vegetation disturbance and soil compaction will be minimized by using low ground-pressure (typically less than 13 to 20 pounds psi) equipment that exerts less pressure per square inch on the ground than other equipment. To minimize impacts to vegetation, select equipment with a greater reach.	The revisions are necessary for consistency with the proposed Project; impact threshold is stricter with the Project's revisions than the standard SRGO measure.
VHDR-2: Native and Invasive Vegetation Removal Materials and Methods	If riparian vegetation is to be removed with chainsaws or other power equipment, machines that operate with vegetable-based bar oil will be used, as practicable. All invasive plant species (e.g., those rated as invasive by the California Invasive Plant Council or local problem species) will, if feasible, be removed from the project site, using locally and routinely accepted agriculture practices. Invasive plant material will be destroyed using approved protocols and disposed of at an appropriate upland disposal or compost area. Invasive plant materials stockpiled at sites known to experience flash flooding outside the flood season will be removed within 15 days of the initial creation of the stockpile in order to contain the potential spread of invasive plant material. Stockpiling of invasive plant materials is prohibited during the flood season.	--

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VHDR-3: Revegetation Materials and Methods	Upon completion of work, site contours will be returned to preconstruction conditions or to contours specified in a Water Board-approved project design that provides enhanced biological and hydrological functions. Where disturbed, topsoil will be conserved (and watered at an appropriate frequency) for reuse during restoration to the extent practicable. Native plant species comprising a diverse community structure (plantings of both woody and herbaceous species, if both are present) that follow an agency-approved plant palette will be used for revegetation of disturbed and compacted areas, as appropriate applicable. See also GPM-15: Revegetate Disturbed Areas, which also allows for revegetation through natural recruitment (e.g., in tidal and managed wetlands and working landscapes where disturbed areas typically revegetate more quickly through natural recruitment than through seeding). Any area barren of vegetation as a result of project implementation will be restored to a natural state by mulching, seeding, planting, or other means with native trees, shrubs, willow stakes, erosion control native seed mixes, or herbaceous plant species following completion of project construction, as applicable. Irrigation may also be required in order to ensure survival of containerized shrubs or trees or other vegetation, depending on rainfall. Soils that have been compacted by heavy equipment will be decompacted, as necessary, to allow for revegetation at project completion as heavy equipment exits the construction area.	The revisions are necessary for consistency with the proposed Project; Heavy equipment will not be used. The Project proposed vegetation thinning but will not involve grading, excavation, or sediment removal.
VHDR-4: Revegetation Erosion Control Materials and Methods	If erosion control fabrics are used in revegetated areas, they will be slit in appropriate locations as necessary to allow for plant root growth. Only non-monofilament, wildlife-safe fabrics will be used. All plastic exclusion netting placed around plantings will be removed after 2 years or sooner if practicable.	--
VHDR-5: Revegetation Monitoring and Reporting	All revegetated areas will be maintained and monitored for a minimum of 2 years after replanting is complete and until success criteria are met, to ensure the revegetation effort is successful. The standard for success is at least 60% absolute cover compared to pre-project conditions at the project site or at least 60% cover compared to an intact, local reference site (or an available reference site accepted by the approving Water Board). If an appropriate reference site or pre-project conditions cannot be identified, success criteria will be developed for review and approval by the approving Water Board on a project-by-project basis based on the specific habitat impacted and known recovery times for that habitat and geography. The project proponent will prepare a summary report of the monitoring results and recommendations at the conclusion of each monitoring year.	The revisions are necessary for consistency with the proposed Project and site specific conditions; A Monitoring Plan will be reviewed and approved by the SF Bay Regional Water Quality Control Board and will include both performance criteria and final success criteria for the proposed 5-year monitoring at restoration site where riparian plantings are installed.