

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
REGION 1 - NORTHERN
601 LOCUST STREET
REDDING, CA 96001



STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. EPIMS-DEL-20356-R1C
Morrison Creek

SMITH RIVER ALLIANCE
MORRISON CREEK TRIBUTARY BARRIER REMOVAL PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the Smith River Alliance (Permittee) as represented by Marisa Parish Hanson.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on June 8, 2021 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located at Morrison Creek, in the County of Del Norte, State of California; Latitude 41.90416 North, Longitude 124.139326 West; Assessors Parcel Number 103-020-030-000.

PROJECT DESCRIPTION

The project is limited to activities described in Exhibit A Project Description.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*), Foothill yellow-legged frog (*Rana boylei*), Willow flycatchers (*Empidonax traillii*), and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

I. Impacts to bed, channel, or bank; effects on habitat structure

1. Permanent or temporary loss of natural bed or bank
2. Permanent or temporary relocation of stream channel
3. Change in contour of bed, channel or bank
4. Change in gradient of bed, channel or bank
5. Channel profile change: confinement or widening
6. Channel degradation or aggradation
7. Accelerated channel scour
8. Temporary loss of bank stability during construction
9. Increase of bank erosion during construction
10. Change in composition of channel materials: LWD and D₅₀
11. Soil compaction or other disturbance
12. Restriction or increase in sediment transport
13. Debris transport impedance (from culvert)

II. Impacts to water quality

1. Change in Turbidity
 - a. Increased sedimentation from adjacent construction
 - b. Increased sedimentation from project roads
2. Chronic and stochastic increases of sedimentation to streams
3. Change in pH
4. Contaminants:
 - a. Short-term release (*e.g. incidental from construction*)
 - b. Release of leachate (*e.g. concrete, creosote, wood preservatives, etc.*)
5. Change in water temperature
6. Change in dissolved oxygen (DO)

III. Impacts to bed, channel, or bank; more direct effects on fish, wildlife, and their habitat

1. Loss or decline of riparian and/or emergent marsh habitat
2. Decline of vegetative diversity
3. Colonization by exotic plant or animal species
4. Creation of predatory fish habitat

5. Loss or decline of instream channel habitat
6. Loss of or decline instream woody material
7. Loss or decline of natural bed substrate
8. Direct take of fish and other aquatic species
9. Construction pits and trenches that can capture terrestrial organisms
10. Disruption to nesting birds and other wildlife:
 - a. Disturbance from project activity
11. Loss of or decline of aquatic species' habitat: migration corridors, spawning or rearing areas
12. Loss of connection to hyporheic zone (culverts)
13. Loss of wildlife connectivity to water source
14. Permanent loss or impediment of terrestrial animal species travel routes due to permanent structures
15. Temporary loss or impediment of terrestrial animal species travel routes due to temporary structures such as survey tape, sandbags, erosion protection materials etc.

IV. Impacts to natural flow: effects on habitat structure and process

1. Change in stream flow (Q)
2. Diversion of flow water from stream activity site or around activity site
3. Dewatering
4. Rewatering
5. Change in flow depth, width or velocity
6. Flow deflection
7. Flow restriction (with risk of culvert failure)
8. Loss of pools or riffles
9. Change in percolation
10. Change in fluvial geomorphology
11. Effect on another water project on the same watercourse

V. Impacts to natural flow: direct effects on fish and wildlife and their habitat

1. Direct take of aquatic species from pumps
2. Impediment to migration of aquatic and terrestrial species
3. Direct (seasonal) loss of resources for aquatic organisms
4. Entrapment in isolated pools due to loss of water surface elevation

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site upon arrangement to verify compliance with the Agreement.

2. Avoidance and Minimization Measures

A. General Measures for Protection of Biological Resources

- 1) Timing. To avoid impacts to aquatic habitat the activities carried out in the restoration program typically occur during the summer dry season where flows are low or streams are dry.
 - a) Work around streams is restricted to the period of June 15 through November 1 or the first significant rainfall, whichever comes first. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e. on the Shasta River projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). This is to take advantage of low stream flow and avoid the spawning and egg/alevin incubation period of salmon and steelhead.
 - b) Upslope work generally occurs during the same period as stream work. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Non jurisdictional upslope projects do not have seasonal restrictions in the Incidental Take Statement but work may be further restricted at some sites to allow soils to dry out adequately.

In some areas equipment access and effectiveness is constrained by wet conditions.

- c) The approved work window for individual work sites will be further constrained as necessary to avoid the nesting or breeding seasons of birds and terrestrial animals. At most sites with potential for raptor (including northern spotted owls) and migratory bird nesting, if work is conditioned to start after July 9, potential impacts will be avoided and no surveys will be required. For work sites that might contain nesting marbled murrelets, the starting date will be September 16 in the absence of surveys. The work window at individual work sites could be advanced if surveys determine that nesting birds will not be impacted.
 - d) For restoration work that may affect swallow nesting habitat (such as removal or modification of bridges, culverts or other structures that show evidence of past swallow nesting activities), construction shall occur after August 31 to avoid the swallow nesting period. Suitable nesting habitat shall be netted prior to the breeding season to prevent nesting. Netting shall be installed before any nesting activity begins, generally prior to March 1. Swallows shall be excluded from areas where construction activities cause nest damage or abandonment.
 - e) All project activities shall be confined to daylight hours.
- 2) Projects shall not disturb or dewater more than 500 feet of contiguous stream reach.
 - 3) During all activities at project work sites, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
 - 4) Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high water area of the stream prior to refueling and lubricating. The grantee shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
 - 5) The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to

complete the restoration action while minimizing riparian disturbance without affecting less stable areas, which may increase the risk of channel instability. Existing roads shall be used to access work sites as much as practicable.

- 6) The access and work area limits shall be identified with brightly colored flagging or fencing. Flagging and fencing shall be maintained in good repair for the duration of project activities. All areas beyond the identified work area limits shall not be disturbed.
- 7) Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.
- 8) Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- 9) Any work within the stream channel shall be performed in isolation from the flowing stream and erosion protection measures shall be in place before work begins.
 - a) Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates shall be determined.
 - b) If there is any flow when work will be done, the grantee shall construct coffer dams upstream and downstream of the excavation site and divert all flow from upstream of the upstream dam to downstream of the downstream dam.
 - c) No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
 - d) Cofferdams may be constructed with clean river run gravel or sand bags, and may be sealed with sheet plastic. Upon project completion, sand bags and any sheet plastic shall be removed from the stream. Clean river run gravel may be left in the stream channel, provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.
 - e) Dewatering shall be coordinated with a qualified fisheries biologist to perform fish and wildlife relocation activities.
 - f) The length of the dewatered stream channel and the duration of the dewatering shall be kept to a minimum and shall be expected to be less than 300 contiguous feet or 500 total feet per site.

- g) When bypassing stream flow around work area, stream flow below the construction site shall be maintained similar to the unimpeded flow at all times.
 - h) The work area shall be periodically pumped dry of seepage. Pumps shall be placed in flat areas, away from the stream channel. Pumps shall be secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes shall be covered with 0.125 inch mesh to prevent entrainment of fish or amphibians that failed to be removed. Pump intakes shall be periodically checked for impingement of fish or amphibians, and shall be relocated according to the approved measured outlined for each species bellow.
 - i) If necessary, flow shall be diverted around the work site, either by pump or by gravity flow, the suction end of the intake pipe shall be fitted with fish screens meeting CDFW and NOAA criteria to prevent entrainment or impingement of small fish. Any turbid water pumped from the work site itself to maintain it in a dewatered state shall be disposed of in an upland location where it will not drain directly into any stream channel.
 - j) Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed net or screen. Mesh shall be no greater than 1/8-inch diameter. The bottom edge of the net or screen shall be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening shall be placed in areas of low water velocity to minimize fish impingement. Screens shall be regularly checked and cleaned of debris to permit free flow of water.
- 10) Where the disturbance to construct coffer dams to isolate the work site would be greater than to complete the action (for example, placement of a single boulder cluster), the action shall be carried out without dewatering and fish relocation. Furthermore, measures shall be put in place immediately downstream of the work site to capture suspended sediment. This may include installation of silt catchment fences across the stream, or placement of a filter berm of clean river gravel. Silt fences and other non-native materials will be removed from the stream following completion of the activity. Gravel berms may be left in the stream channel provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.
- 11) Any equipment entering the active stream (for example, in the process of installing a coffer dam) shall be preceded by an individual on foot to displace wildlife and prevent them from being crushed.
- 12) If any non-special status wildlife are encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed, and shall be flushed, hazed, or herded in a safe direction away from

the project site. "Special status wildlife" is defined as any species that meets the definition of "endangered, rare, or threatened species" in section 15380, article 20 in Title 14 of the California Code of Regulations, also known as the "CEQA Guidelines".

- 13) Any red tree vole nests encountered at a work site shall be flagged and avoided during construction.
- 14) For any work sites containing western pond turtles, salamander, foothill yellow-legged frogs, or tailed frogs, the grantee shall provide to the CDFW grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction.
- 15) All habitat improvements shall be done in accordance with techniques in the *California Salmonid Stream Habitat Restoration Manual*. The most current version of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.
- 16) The grantee shall have dependable radio or phone communication on-site to be able to report any accidents or fire that might occur.
- 17) Installation of bridges, culverts, or other structures shall be done so that water flow is not impaired and upstream and downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade.
- 18) Temporary fill shall be removed in its entirety prior to close of work-window.

B. Specific Measures for Endangered, Rare, or Threatened Species That Could Occur at Specific Work Sites

1) Rare Plants

In order to avoid impacts to rare plants the following mitigation measures will be implemented:

- a) CDFW or another qualified biological consultant shall survey all work sites for rare plants prior to any ground disturbing activities. Rare plant surveys will be conducted following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW, 2009). These guidelines are available in Appendix C or on the web at: <https://www.wildlife.ca.gov/Conservation/Plants>.

- b) If any special status plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:
- i. Fencing to prevent accidental disturbance of rare plants during construction,
 - ii. On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed, or
 - iii. Redesign of proposed work to avoid disturbance of rare plants.
- c) Plant surveys will also include any host plants for butterflies identified as occurring in the area either in the CNDDDB or the official species list. These host plants are as follows for each butterfly:

Butterfly	Host plant
Mission blue butterfly (<i>Icaricia icarioides missionensis</i>) - Endangered	Silver Bush Lupine (<i>Lupinus albifrons</i>)
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>) - Endangered	stonecrop (<i>Sedum spathulifolium</i>)
Callippe silverspot butterfly (<i>Speyeria callippe callippe</i>) - Endangered	Johnny jump up (<i>Viola pedunculata</i>)
Myrtle's silverspot (<i>Speyeria zerene myrtleae</i>) - Endangered	hookedspur violet (<i>Viola adunca</i>)
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>) - Threatened	native plantain (<i>Plantago erecta</i>)

- i. If any host plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:
 - a. Fencing to prevent accidental disturbance of larval host plants during construction,
 - b. On-site monitoring by a qualified biologist during construction to assure that larval host plants are not disturbed, and
 - c. Redesign of proposed work to avoid disturbance of larval host plants.
- ii. If it becomes impossible to implement the project at a work site without impacts to larval host plants, then activity at that work site shall not proceed. If it becomes impossible to implement the project at a work site without potentially significant impacts to rare plants, then activity at that work site shall be discontinued.

- iii. CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.

2) Chinook salmon (*O. tshawytscha*), Coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), and coast cutthroat trout (*O. clarki clarki*)

While all of the work proposed under this program will enhance habitat for one or more of these species, all of the work sites proposed as part of the 2017 FHR project could involve instream work in their habitat (Appendix A). In order to avoid any potential for negative impacts to these species, the following measures will be implemented:

- a) Project work within the wetted stream shall be limited to the period between June 15 and November 1, or the first significant rainfall, or which ever comes first. This is to take advantage of low stream flows and to avoid the spawning and egg/alevin incubation period of salmon and steelhead. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e. on the Shasta River projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). Whenever possible, the work period at individual sites shall be further limited to entirely avoid periods when salmonids are present (for example, in a seasonal creek, work will be confined to the period when the stream is dry).
- b) Suitable large woody debris removed from fish passage barriers that is not used for habitat enhancement, shall be left within the riparian zone so as to provide a source for future recruitment of wood into the stream, reduce surface erosion, contribute to amounts of organic debris in the soil, encourage fungi, provide immediate cover for small terrestrial species and to speed recovery of native vegetation.
- c) Prior to dewatering a construction site, fish and amphibian species shall be captured and relocated by CDFW personnel (or designated agents). The following measures shall be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities:
 - i. Fish relocation and dewatering activities shall only occur between June 15 and November 1 of each year.
 - ii. Fish relocation shall be performed by a qualified fisheries biologist, with all necessary State and Federal permits. Captured fish shall be moved to the nearest appropriate site outside of the work area. A record shall be maintained of all fish rescued and moved. The record shall include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the project site, and the number and species of fish captured and relocated. The record shall

be provided to CDFW within two weeks of the completion of the work season or project, whichever comes first.

- iii. Electrofishing shall be conducted by properly trained personnel following NOAA *Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act*, June 2000.
- iv. Prior to capturing fish, the most appropriate release location(s) shall be determined. The following shall be determined:
 - a. Temperature: Water temperature shall be similar as the capture location.
 - b. Habitat: There shall be ample habitat for the captured fish.
 - c. Exclusions from work site: There shall be a low likelihood for the fish to reenter the work site or become impinged on exclusion net or screen.
- v. The most efficient method for capturing fish shall be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down the pool and then seining or dipnetting fish.
- vi. Handling of salmonids shall be minimized. However, when handling is necessary, always wet hands or nets prior to touching fish.
- vii. Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.
- viii. Air and water temperatures shall be measured periodically. A thermometer shall be placed in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds 18 °C, fish shall be released and rescue operations ceased.
- ix. Overcrowding in containers shall be avoided by having at least two containers and segregating young-of-year (YOY) fish from larger age-classes to avoid predation. Larger amphibians, such as Pacific giant salamanders, shall be placed in the container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and shall be released at the predetermined locations.
- x. Species and year-class of fish shall be visually estimated at time of release. The number of fish captured shall be counted and recorded. Anesthetization or measuring fish shall be avoided.
- xi. If feasible, initial fish relocation efforts shall be performed several days prior to the start of construction. This provides the fisheries biologist

an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts.

- xii. If mortality during relocation exceeds three percent, capturing efforts shall be stopped and the appropriate agencies shall be contacted immediately.
 - xiii. In regions of California with high summer temperatures, relocation activities shall be performed in the morning when the temperatures are cooler.
 - xiv. CDFW shall minimize the amount of wetted stream channel that is dewatered at each individual project site to the fullest extent possible.
 - xv. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- d) If these mitigation measures cannot be implemented, or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to anadromous salmonids or their habitat, then activity at that work site shall be discontinued.

4) Foothill yellow-legged frog (*R. boylei*)

For any work sites containing western pond turtles, salamanders, foothill yellow-legged frogs, California red-legged frogs, or tailed frogs, the grantee shall provide to the CDFW grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction.

5) Willow flycatcher (*E. traillii*)

None of the activities proposed for these sites will significantly degrade existing willow flycatcher habitat, but the potential exists for the noise from heavy equipment work or harvesting of revegetation material at these sites to disrupt willow flycatcher nesting. To avoid this potential impact, the following mitigation measures will be implemented:

- a) Heavy equipment work shall not begin within one quarter mile of any site with known or potential habitat for the willow flycatcher until after August 31.

- b) Harvest of willow branches at any site with potential habitat for the willow flycatcher will not occur between May 1 and August 31.
- c) The work window at individual work sites may be modified, if protocol surveys determine that nesting birds do not occur within 0.25 miles of the site during the breeding season.
- d) No more than 1/3 of any willow plant shall be harvested annually. Care shall be taken during harvest not to trample or over harvest the willow sources.
- e) CDFW shall ensure that the grantee or responsible party is aware of this site specific condition, and will inspect the work site before, during, and after completion of the action item.
- f) If for some reason these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to willow flycatcher or their habitat, then activity at that work site will be discontinued.

C. Riparian and Re-vegetation

- 1) Planting of seedlings shall begin after December 1, or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings, but in no case after April 1.
- 2) Any disturbed banks shall be fully restored upon completion of construction. Revegetation shall be done using native species. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Part XI of the *California Salmonid Stream Habitat Restoration Manual*.
- 3) Disturbed and compacted areas shall be re-vegetated with native plant species. The species shall be comprised of a diverse community structure that mimics the native riparian corridor. Planting ratio shall be 2:1 (two plants to every one removed).
- 4) Unless otherwise specified, the standard for success is 80 percent survival of plantings or 80 percent ground cover for broadcast planting of seed after a period of 3 years.
- 5) To ensure that the spread or introduction of invasive exotic plants shall be avoided to the maximum extent possible, equipment shall be cleaned of all dirt, mud, and plant material prior to entering a work site. When possible, invasive exotic plants at the work site shall be removed. Areas disturbed by project activities will be restored and planted with native plants.
- 6) Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to

prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.

- 7) If erosion control mats are used in re-vegetation, they shall be made of material that decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used.
- 8) CDFW shall retain as many trees and brush as feasible, emphasizing shade producing and bank stabilizing trees and brush to minimize impacts to the riparian corridor.
- 9) If riparian vegetation is to be removed with chainsaws, the grantee shall use saws that operate with vegetable-based bar oil when possible.
- 10) Disturbed and decompacted areas shall be re-vegetated with native species specific to the project location that comprise a diverse community of woody and herbaceous species.

D. CULTURAL RESOURCES

Ground-disturbance will be required to implement the project at certain locations that, despite efforts to identify cultural resources, have the potential to affect these resources. The procedure for a programmatic evaluation of archeological resources is provided in Appendix E. Potential for inadvertent impacts will be avoided through implementation of the following mitigation measures:

- 1) CDFW shall contract with an archaeologist(s) or other historic preservation professional that meets The Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61, and 48 FR 44716) to complete cultural resource surveys at any sites with the potential to be impacted prior to any ground disturbing activities. This work may be augmented with the aid of a Native American cultural resources specialist that is culturally affiliated with the project area. Cultural and paleontological resource surveys shall be conducted using standard protocols to meet CEQA Guideline requirements. Paleontological survey protocols are listed in Appendix D.
- 2) If cultural and/or paleontological resource sites are identified at a project location, CDFW will require one or more of the following protective measures to

be implemented before work can proceed: a) fencing to prevent accidental disturbance of cultural resources during construction, b) on-site monitoring by cultural and/or paleontological resource professionals during construction to assure that cultural resources are not disturbed, c) redesign of proposed work to avoid disturbance of cultural resources.

- 3) CDFW shall report any previously unknown historic, archeological, and paleontological remains discovered at a project location to the USACE as required in the RGP.
- 4) CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
- 5) Inadvertent Discovery of Cultural Resources - If cultural resources, such as lithic debitage, ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until an archaeologist that meets the Secretary of the Interior's Standards and Guidelines suited to the discovery, has evaluated the materials and offered recommendations for further action. Cultural materials not associated with human interments shall be documented and curated in place.
- 6) Inadvertent Discovery of Human Remains - If human remains are discovered during project construction, work shall stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The county coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American heritage Commission (NAHC) (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work shall not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.
- 7) Procedures for treatment of an inadvertent discovery of human remains:
 - a) Immediately following discovery of known or potential human remains all ground-disturbing activities at the point of discovery shall be halted.

- b) No material remains shall be removed from the discovery site, a reasonable exclusion zone shall be cordoned off.
- c) The CDFW Grant Manager and property owner shall be notified and the CDFW Grant Manager shall contact the county coroner.
- d) CDFW shall retain the services of a professional archaeologist to immediately examine the find and assist the process.
- e) All ground-disturbing construction activities in the discovery site exclusion area shall be suspended.
- f) The discovery site shall be secured to protect the remains from desecration or disturbance, with 24-hour surveillance, if prudent.
- g) Discovery of Native American remains is a very sensitive issue, and all project personnel shall hold any information about such a discovery in confidence and divulge it only on a need-to-know basis, as determined by the CDFW.
- h) The coroner has two working days to examine the remains after being notified. If the remains are Native American, the coroner has 24 hours to notify the NAHC in Sacramento (telephone 916/653-4082).
- i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American.
- j) The MLD may, with the permission of the landowner, or their representative, inspect the site of the discovered Native American remains and may recommend to the landowner and CDFW Grant Manager means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment with 48 hours of being granted access to the site (Public Resource Code, Section 5097.98(a)). The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.
- k) Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his/her authorized representative rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to the landowner, the landowner or his/her authorized representatives shall re-inter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance in accordance with Public Resource Code, Section 5097.98(e).
- l) Following final treatment measures, the CDFW shall ensure that a report is prepared that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location.

Appended to the report shall be a formal record about the discovery site prepared to current California standards on DPR 523 form(s). CDFW shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC, and MLD.

- 8) Pursuant to RGP78 and in accordance to 36 C.F.R. Section 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the CDFW shall notify the USACE archeological staff (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction.
- 9) If it becomes impossible to implement the project at a work site without disturbing cultural or paleontological resources, then activity at that work site shall be discontinued.

E. GEOLOGY AND SOILS

There is no potential for a significant adverse impact to geology and soils; implementation of the restoration project will contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. In order to avoid temporary increases in surface erosion, the following mitigation measures will be implemented:

- 1) CDFW will implement the following measures to minimize harm to listed salmonids resulting from culvert replacement activities and other instream construction work:
 - a) All stream crossing replacement or modification designs, involving fish passage, shall be reviewed and approved by NOAA (or CDFW) engineers prior to onset of work.
 - b) If the stream in the project location was not passable to, or was not utilized by all life stages of, all covered salmonids prior to the existence of the road crossing, the project shall pass the life stages and covered salmonid species that historically did pass there. Retrofit culverts shall meet the fish passage criteria for the passage needs of the listed species and life stages historically passing through the site prior to the existence of the road crossing.
- 2) CDFW shall implement the following measures to minimize harm to listed salmonids resulting from road decommissioning activities:

- a) Woody debris will be concentrated on finished slopes of decommissioned roads adjacent to stream crossings to reduce surface erosion; contribute to amounts of organic debris in the soil; encourage fungi; provide immediate cover for small terrestrial species; and to speed recovery of native forest vegetation.
 - b) Work sites shall be winterized at the end of each day to minimize the eroding of unfinished excavations when significant rains are forecasted. Winterization procedures shall be supervised by a professional trained in erosion control techniques and involve taking necessary measures to minimize erosion on unfinished work surfaces. Winterization includes the following: smoothing unfinished surfaces to allow water to freely drain across them without concentration or ponding; compacting unfinished surfaces where concentrated runoff may flow with an excavator bucket or similar tool, to minimize surface erosion and the formation of rills; and installation of culverts, silt fences, and other erosion control devices where necessary to convey concentrated water across unfinished surfaces, and trap exposed sediment before it leaves the work site.
- 3) Effective erosion control measures shall be in-place at all times during construction. Construction within the 5-year flood plain shall not begin until all temporary erosion controls (i.e., straw bales or silt fences that are effectively keyed-in) are in place down slope or down stream of project activities within the riparian area. Erosion control measures shall be maintained throughout the construction period. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided.
 - 4) An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained onsite to facilitate a quick response to unanticipated storm events or emergencies.
 - 5) Use erosion controls that protect and stabilize stockpiles and exposed soils to prevent movement of materials. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
 - 6) When needed, instream grade control structures shall be utilized to control channel scour, sediment routing, and headwall cutting.
 - 7) Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the stream channel. Available sites at or near the project location shall be determined prior to the start of construction. If feasible, topsoil shall be conserved for reuse at project location or use in other areas.

- 8) For projects located within the USACE San Francisco District, an annual limit on the number of sediment-producing projects per HUC 10 watershed shall be implemented to ensure that potential sediment impacts will remain spatially isolated, thus minimizing cumulative turbidity effects. Sediment producing projects include instream habitat improvement, instream barrier removal, stream bank stabilization, fish passage improvement, upslope road work, and fish screen construction (unless the screen is located in a diversion ditch and is disconnected from the waterway). The limit of projects shall be as follows:

Square Mile of HUC 10 Watershed	Maximum Number of Instream and Upslope Projects Per Year
<50	2
51-100	3
101-150	4
151-250	5
251-350	6
351-500	9
>500	12

- 9) Each year, all instream projects shall be separated both upstream and downstream from other proposed instream projects by at least 1500 linear feet in fish bearing stream reaches. In non-fish bearing reaches, the distance separating sediment-producing projects will be 500 feet.
- 10) Upon project completion, all exposed soil present in and around the project site shall be stabilized within 7 days. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.
- 11) Soil compaction shall be minimized by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed and less compaction of disturbed areas.
- 12) Disturbed soils shall be decompacted at project completion as heavy equipment exits the construction area.
- 13) At the completion of the project, soil compaction that is not an integral element of the design of a crossing should be de-compacted.

F. GREENHOUSE GAS EMISSIONS

No specific mitigation measures are required. Re-vegetation practices will help offset the short term, less than significant, greenhouse gas emissions.

G. HAZARDS AND HAZARDOUS MATERIALS

The project will not create a significant hazard to the public or the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant, or of an accidental spark from equipment igniting a fire. The potential for these impacts will be reduced to a less than significant level through implementation of the following mitigation measures:

- 1) Heavy equipment that will be used in these activities will be in good condition and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
- 2) When operating vehicles in wetted portions of the stream channel, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, the responsible party shall, at a minimum, do the following:
 - a) Check and maintain on a daily basis any vehicles to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat;
 - b) Take precautions to minimize the number of passes through the stream and to avoid increasing the turbidity of the water to a level that is deleterious to aquatic life; and
 - c) Allow the work area to “rest” to allow the water to clear after each individual pass of the vehicle that causes a plume of turbidity above background levels, resuming work only after the stream has reached the original background turbidity levels.
- 3) All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a Spill Prevention/Response plan to help avoid spills and allow a prompt and effective response should an accidental spill occur. All workers shall be informed of the importance of preventing spills. Operators shall have spill clean-up supplies on site and be knowledgeable in their proper deployment.
- 4) All activities performed in or near a stream will have absorbent materials designed for spill containment and cleanup at the activity site for use in case of an accidental spill. In an event of a spill, work shall cease immediately. Clean-up of all spills shall begin immediately. The responsible party shall notify the State Office of Emergency Services at 1-800-852-7550 and the CDFW

immediately after any spill occurs, and shall consult with the CDFW regarding clean-up procedures.

- 5) All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet from any riparian habitat or water body and place fuel absorbent mats under pump while fueling. The USACE and the CDFW will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the CDFW will ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- 6) Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action. To avoid contamination of habitat during restoration activities, trash will be contained, removed, and disposed of throughout the project.
- 7) Petroleum products, fresh cement, and other deleterious materials shall not enter the stream channel.
- 8) Stationary equipment such as motors, pumps, generators, compressors, and welders, located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans.
- 9) No debris, soil, silt, sand, bark, slash, spoils, sawdust, rubbish, cement, concrete or washings thereof, asphalt, paint, or other coating material; oil or petroleum products; or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area and disposed of in a lawful manner.
- 10) All internal combustion engines shall be fitted with spark arrestors.
- 11) The grantee shall have an appropriate fire extinguisher(s) and firefighting tools (shovel and axe at a minimum) present at all times when there is a risk of fire.
- 12) Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.
- 13) The grantee shall follow any additional rules the landowner has for fire prevention.

- 14) The potential for mercury contamination is largely predicted by the presence of historic hydraulic gold mines and mercury (cinnabar) mines (California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State, DOC 2000). Therefore, only a few limited areas within the geographic scope of this grant program have any potential for gravels contaminated with elemental mercury, they are: Middle Klamath River, Salmon River, Scott River, and the Lower Middle and Upper Trinity River. (Though studies by the USGS failed to find significant levels of methyl mercury near these mines.)

Given the limited geographical potential for encountering mercury contamination (from historic mining) within the geographic scope, and the limited number of projects within these areas that will either disturb the channel bottom or import gravels for instream restoration; the following avoidance and mitigation measure will be adhered to: any gravel imported from offsite shall be from a source known to not contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings.

H. HYDROLOGY AND WATER QUALITY

- 1) Instream work shall be conducted during the period of lowest flow.
- 2) Before work is allowed to proceed at a site, CDFW shall inspect the site to assure that turbidity control measures are in place.
- 3) The waste water from construction area shall be discharged to an upland location where it will not drain sediment-laden water back to stream channel.
- 4) For projects within the USACE San Francisco District, if instream work liberates a sediment wedge, 80% of the wedge shall be removed before the sediment is liberated. The required amount can be modified if NOAA or CDFW hydrologists or hydraulic engineers agree that removing a smaller amount will better protect and enhance fish habitat in the area of the project (e.g., leaving some sediment to replenish areas downstream that lack suitable substrate volume or quality).
- 5) To control erosion during and after project implementation, CDFW shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
- 6) Sediment-laden water caused by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area. Silt fences or other detention methods shall be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.

- 7) If CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.
- 8) Poured concrete shall be excluded from the wetted channel for a period of two weeks after it is poured. During that time the poured concrete shall be kept moist, and runoff shall not be allowed to enter flowing stream. Commercial sealants shall be applied to the poured concrete surface where concrete cannot be excluded from the stream flow for two weeks. If sealant is used, water shall be excluded from the site until the sealant is dry.
- 9) Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites shall be located in upland locations so that dirty wash water does not flow into the stream channel or adjacent wetlands.
- 10) Water conservation projects that include water storage tanks and a Forbearance Agreement, for the purpose of storing winter water for summer use, require registration of water use pursuant to the Water Code §1228.3, and require consultation with CDFW and compliance with all lawful conditions required by CDFW. Diversions to fill storage facilities during the winter and spring months shall be made pursuant to a Small Domestic Use Appropriation (SDU) filed with the State Water Resources Control Board (SWRCB). CDFW will review the appropriation of water to ensure fish and wildlife resources are protected. The following conditions shall then be applied:
 - a) Seasonal Restriction: No pumping is allowed when stream flow drops below 0.7 cubic feet per second (cfs) except as permitted by CDFW in the event of an emergency.
 - b) Bypass Flows: Pumping withdrawal rates shall not exceed 5% of stream flow. If CDFW determines that the streamflow monitoring data indicate that fisheries are not adequately protected, then the bypass flows are subject to revision by CDFW.
 - c) Cumulative Impacts: Pumping days shall be assigned to participating landowner(s) when streamflows drop below 1.0 cfs to prevent cumulative impacts from multiple pumps operating simultaneously.
 - d) Pump Intake Screens: Pump intake screens shall comply with the “2000 California Department of Fish and Game Screening Criteria”* for California streams that provide habitat for juvenile coho salmon, Chinook salmon and steelhead. The landowner shall be responsible for annual inspection and maintenance of screens. Additionally, the landowner shall be responsible for cleaning screens as needed to keep them free of debris and ensure that screen function complies with the criteria specifications.

- e) These conditions do not authorize incidental take of any species, removal of riparian vegetation, or bed, bank, or channel alteration.
- f) CDFW shall be granted access to inspect the pump system. Access is limited to the portion of the landowner's real property where the pump is located and those additional portions of the real property which must be traversed to gain access to the pump site. Landowners shall be given reasonable notice and any necessary arrangements will be made prior to requested access including a mutually-agreed-upon time and date. Notice may be given by mail or by telephone with the landowner or an authorized representative of the landowner. The landowner shall agree to cooperate in good faith to accommodate CDFW access.

* Fish Screening Criteria are from "State of California Resources Agency Department of Fish and Game Fish Screening Criteria, June 19, 2000." The "approach velocity" shall be calculated according to Section 2C "Screens which are not Self Cleaning."

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Marisa Parish Hanson
1232 Buttermilk Ln
Arcata, CA 95521
(707) 601-3381
marisa@smithriveralliance.org

To CDFW:

Department of Fish and Wildlife
1455 Sandy Prairie Court, Suite J
Fortuna, CA 95540
Notification #1600-2018-0455-R1
Fax: 707-725-1086
Email: Beatrijs.deWaard@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers,

employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire five years after the date the Agreement is fully executed, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

A. Exhibit A Project Description

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

Through the electronic signature by the permittee or permittee's representative as evidenced by the attached concurrence from CDFW's Environmental Permit Information Management System (EPIMS), the permittee accepts and agrees to comply with all provisions contained herein.

The EPIMS concurrence page containing electronic signatures must be attached to this agreement to be valid.

Exhibit A

Project Description

Introduction: The Fisheries Restoration Grant Program (FRGP) funds projects that restore, enhance, or protect anadromous salmonid habitat in anadromous watersheds of California or projects that lead to process-based restoration, enhancement, or protection of anadromous salmonid habitat, as well as contribute to the objectives of the California Water Action Plan, State Wildlife Action Plan, and the fulfillment of CDFW's Mission.

The purpose of the project is to improve upstream fish passage for adult and juvenile coho salmon, and to reduce the potential for culvert failure and resulting sediment delivery to an unnamed tributary of Morrison Creek. This project is necessary because the barrier was assessed and identified as a high priority project in the Smith River Plain Stream Restoration Plan (Parish Hanson 2018).

The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvement(s) will follow techniques in the California Stream Habitat Restoration Manual (Part IX and XII <https://www.wildlife.ca.gov/Grants/FRGP/Guidance>).

Objective(s): The overall project goal is to remove two undersized culverts, one that is a total barrier (funded by FRGP) and one that is a partial barrier (funded by USFWS) to fish passage, and replace them with appropriately sized structures that allow passage at all migration flows. Crossings are located approximately 500 linear feet apart and will be constructed simultaneously.

The downstream crossing will replace a 3 foot corrugated metal pipe (CMP), 30 feet in length and set at a slope of 1.0%, that is perched 2.0 feet above the downstream tailwater control. The crossing will be replaced with a 30 foot long, 16 foot wide Kernan bridge. An abandoned culvert, located to the north of the existing culvert, will also be removed. The crossing is located at the apex at a tight meander bend and the overall designed channel planform alignment was developed to restore the natural planform and eliminate abrupt turns, which results in the centerline of the stream shifting slightly north of the existing crossing, but south of the abandoned culvert.

Channel grading will occur upstream and downstream of the new bridge to match the design profile of 1.2%, matching the overall slope of the channel. Downstream of the crossing the channel bed will be raised using channel spanning large wood pieces; wood was selected to match natural conditions present in the stream. Large wood is functioning as grade control in the reference reaches upstream and downstream of the crossing. Large wood with rootwads will be placed upstream and downstream of the bridge abutment on outside of the meander bend (north bank). Wood is intended to

create a natural bank revetment deflecting high flows and protecting the upper bank from scour.

Streambed material, similar in size to the natural substrate on site, will be imported and used to grade the channel extending approximately 110 feet, 62 feet upstream and 47 feet downstream of the existing CMP. Rock slope protection (RSP) will be imported and placed under the bridge to protect the embankment and bridge footings from scour. RSP will be composed of ¼ ton pieces with a median diameter of 1.8 feet and placed at a thickness of 2.5 feet. A multilayered stabilization mat made of well graded crushed aggregate will be used for the bridge abutments. All project construction will follow the finalized and stamped design plans included with the permit application packet. The upstream crossing will replace a 3 foot CMP, 20 feet in length and set at an inverse slope of 1.1% with an aluminum box culvert that is 12'5" wide by 7'4" tall and 22'5" long. The culvert will be embedded 3' below the design channel bed to provide for channel continuity, without creating a significant constriction of channel width. Channel grading will occur upstream and downstream of the culvert replacement for a total of no more than 100 linear feet of disturbance. A maximum of approximately 420 feet and 1.23 acres of the bed, channel and banks of the stream will be disturbed for replacement of the two crossings; 220 feet and 0.78 acres at crossing 1 and 200 feet and 0.45 acres at crossing 2. Large woody debris, rock scour protection, and engineered stream bed material will added at both crossings to stabilize the channel, protect the new crossings, and provide fish habitat. A total of approximately 500 cubic yards of material will be disturbed to complete the project. A channel spanning log will be removed near the upstream extent of the project to appropriately set the channel grade.

Project Description:

Location: The project is located on an unnamed tributary of Morrison Creek (locally called Rawson Creek) approximately 2,600 feet upstream of the confluence with Morrison Creek. The tributary meets Morrison Creek approximately 4,500 linear feet upstream of the Morrison Creek and Smith River confluence. The project area includes approximately 225 linear feet of stream, including the road prism and extends both upstream and downstream of the private road crossing to be replaced. Project coordinates are: 41.904168 North and 124.139326 West; Township 18 North, Range 01 West, and Section 35 of the Smith River 7.5 Minute U.S. Geological Survey (USGS) Quadrangle map as depicted in the Project Location Map, Attachment 1, which is attached hereto and made a part of this agreement by this reference.

Materials and Equipment: Property acquisitions and equipment purchases must be consistent with Section 5.06 - General Terms and Conditions.

A 30-foot Kernan bridge with 16-foot wide deck, railings, and precast concrete strip footings will compose the new crossing structure. Geogrid stabilization mat

with filter fabric will be placed under the bridge footings to meet design and model stabilization requirements. Aggregate:70 ton - rock slope protection (RSP) with a median diameter of 1.8 feet will be placed under the bridge to protect the embankment and bridge footings from scour and to maintain channel slope. 60 ton - 6-inch diameter rock will be used for road embankment backfill material. 120 tons - Class II aggregate will be used for road surface and stabilization mat. Large woody debris (LWD):7 logs with rootwad attached, diameter up to 2.5-foot diameter and minimum 15-foot length will be used to stabilize the channel bank upstream and downstream of the crossing.5 logs without rootwad - 25-foot length and 2-foot diameter will be used to as channel spanning structures to re-establish channel slope and prevent channel incision or head-cutting. Riparian trees will be used after the crossing construction is complete to revegetation the project area. Stabilization materials (Seed, chips, silt fencing, fiber rolls) will be used as BMPs during construction and to stabilize the site after completion of construction. Equipment including excavator, backhoe, loader, dump truck, roller compactor will be used to implement construction activities such as tree removal, laying and compacting fill, removing old crossing, and laying new crossing features. They will also be used to install design elements and grade the road and stream throughout project construction.

Project Implementation: Consistent with Grantee's proposal for the Project, Grantee will complete the following tasks:

Task 1 – Project Management and Administration

Grantee Project Director and Project Manager will provide technical and administrative services associated with performing and completing the work for this Project, including managing this Agreement, assuring all permits are finalized, delivering the final landowner access agreement, administering subcontracts, invoicing and payments, coordination with stakeholders and members of the project team, drafting and finalizing progress and final reports, and data management.

Task 2 - Permits and CEQA Compliance

SRA Project Manager will lead permit preparation and applications needed for CDFW Lake and Streambed Alteration Agreement, County Grading Permit, Coastal Grading Permit, and CEQA cultural surveys. Michael Love and Associates (MLA) will provide technical support on permit preparation. Permits will require information including metrics (i.e., length, area, volume) of impacts, equipment used, and BMPs. Post project implementation reports will be submitted as required in permit conditions. Pacific Watershed Associates (PWA) will perform all cultural surveys (i.e., botanical, paleontological, and archaeological) required to comply with CEQA regulations.

Task 3 - Contractor Selection

SRA Project Manager will prepare and post a solicitation for potential contractors that outlines contractor's minimum qualifications, licenses, and experience needed to complete the project. MLA will provide guidance on solicitation preparation and selection of the project contractor. SRA and MLA will conduct site visits and answer questions posed by potential contractors.

Task 4 - Project Implementation

Project implementation includes all steps necessary to prepare the site, remove the culvert, build the new crossing as designed, replant the construction area, and implement necessary BMPs.

4.1. Pre-construction preparation includes pre-construction meeting with SRA, MLA, PWA, landowner, and the construction subcontractor. MLA will conduct construction staking prior to construction to define locations and stationing of the project components as defined in the approved project design.

4.2 Dewatering and Aquatic Relocation. Project implementation is anticipated to occur when no surface water is present. However, if water is present SRA will work with CDFW staff Justin Garwood to remove and exclude all fish and aquatic life from the project work area prior to any in-channel work. The contractor will install water management features so that work is completed in dry conditions and meets permit and site constraints. Water management techniques will employ a clear water diversion system to bypass creek water around the work site (if water is present) and to remove any "nuisance" water (e.g. seepage) from within the work area following methods outlined in the California Salmonid Stream Habitat Restoration Manual, Parts IV, IX and XII.

4.3 Site preparation involves the removal of all surface vegetation with backhoe, loader and/or excavator at the construction site. All construction materials and construction equipment will be delivered to the project site. This will be completed by the construction subcontractor.

4.4 Crossing and channel construction. The exiting culverts will be removed, large woody debris installed, the stream channel and new bridge constructed as designed, and the road will be reconstructed. The water management and fish exclusion devices will be removed. The work area will be stabilized, and all project materials and equipment will be removed from the project site. This will be completed by the construction subcontractor.

Task 5 - Monitoring

MLA and SRA Project Manager will conduct post-construction monitoring during two fish passage flows in the fall or winter following construction and prior to the end of grant agreement to evaluate fish passage conditions through the stream simulation crossing and along the modified channel to document channel adjustments. The monitoring will occur at two flows that are within the fish migration flow range. Longitudinal profile, water depths, and water velocities will be surveyed within the project reach and within an adjacent reference reach. The measurements are intended to determine if the stream simulation channel produces similar hydraulic conditions as the reference reach. It is assumed that data collection and flow measurement will require a full day for each event.

MLA will prepare a brief memorandum summarizing the methods and results of the post-construction fish passage monitoring.

Monitoring will be used to inform permit reports completed in Tasks 1 and 2.