MITIGATED NEGATIVE DECLARATION

FOR

SALMONID RESTORATION FEDERATION
MARSHALL RANCH STREAMFLOW ENHANCEMENT PROJECT

SCH #2019109088

October 2020

Lead Agency:
County of Humboldt

Lead Agency Contact:
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ATTACHMENTS

I. PROJECT SUMMARY

Date: October 2020

Project Title: Marshall Ranch Streamflow Enhancement Project

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Current General Plan Designation: County of Humboldt APN 220-061-011-000

- Residential Agriculture (RA)

Current Zoning: County of Humboldt

- Unclassified (U)

Property Owners
And Parcels:

Humboldt County				
Landowner	**Location**	**Parcel #**	**Contact**	**Phone**
Velma V. Marshall Estate	Marshall Ranch, Briceland, CA	220-061-011	David Sanchez	707-223-3946

Project Description:

Note that the project design and this associated Mitigated Negative Declaration (MND) have been revised from the versions that were circulated for public comment from November 1, 2019 to December 2, 2019 based on comments received from California Department of Fish and Wildlife, State Water Resources Control Board Division of Water Rights, and neighboring landowners.

The Salmonid Restoration Federation (SRF) is planning to construct a 15.3-million-gallon off-stream pond on the Marshall Ranch, adjacent to Redwood Creek, a tributary to the South Fork Eel River. The pond is designed to fill with rainwater (~5.5 million gallons) and water pumped from Redwood Creek during the wet season (~9.8 million gallons). This Project seeks to improve habitat for coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*) in Redwood Creek, an important salmon bearing tributary, by addressing the limiting factor of low summer streamflows. The pond has been sited and designed to fill during the winter wet season and release most of its stored water directly to Redwood Creek providing increased flows of 50 gallons per minute during the 5-month dry season. It is anticipated that the pond will be nearly drained at the end of each dry season for bull frog management.

A crucial component of the project is the proposed diversion of water from Redwood Creek during the wet season that will be used to fill the off-stream pond. The project team has applied for an Appropriative Water Right with the State Water Board Division of Water Rights (Application A033073). This water rights application has requested a total yearly diversion of 30.85 acre-feet of water to be diverted during the wet season period of December 1 to April 1 with a maximum diversion rate of 220 gallons per minute. The proposed diversion structure via screened intake and pump is shown on the Design Plans in Attachment A (Basis of Design Report). Of the total requested diversion amount, 30.1 acre-feet (~9.8 million gallons) would be dedicated to flow enhancement for the benefit fish and wildlife and 0.75 acre-feet (250,000 gallons) would be dedicated to domestic, stock watering and fire suppression uses which would allow the landowner to forbear diversion during the dry season.

The South Fork Eel River is one of five priority watersheds selected for flow enhancement projects in California by the State Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW) as part of the California Water Action Plan effort (SWRCB 2019). Redwood Creek is a critical tributary to the South Fork Eel River (NMFS, 2014) that historically supported coho and chinook salmon (*Oncorhynchus tshawytscha*) and steelhead.

Coho salmon stocks in the South Fork Eel River Watershed may have historically constituted one of the largest populations of the species in California (NMFS, 2014). Sadly, their population has experienced a precipitous decline, with an approximately 1200% reduction observed between the 1930's and 1991 (BLM et al. 1996, Brown and Moyle 1991). Today, the population remains

highly depressed, with the National Marine Fisheries Service assigning a moderate risk of extinction to the Southern Oregon and Northern California Evolutionarily Significant Unit (SONCC ESU). This ESU is currently listed as threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA).

Numerous factors are responsible for the declines in coho salmon abundance, and many of these limiting factors are also impacting chinook salmon and steelhead, which are also severely depressed in abundance relative to historical population estimates. Land use practices including logging and road systems have greatly increased winter runoff resulting in decreased groundwater storage and lower summer streamflows. Widespread removal of large wood from streams has also decreased groundwater storage through channel incision and loss of floodplain connectivity and resulted in fewer and shallower instream pools that are of insufficient size to withstand drought. Cannabis cultivation has also expanded in the last 15 years, which has resulted in increased water diversions that have affected area watercourses and summer stream flows. Industrial logging practices combined with fire suppression have resulted in overly dense even aged forests with higher evapotranspiration rates which significantly contribute to lower dry season flows. The problems of reduced groundwater storage and increased evapotranspiration are intensified during longer dry seasons which have become the norm during the past decade.

SRF has been conducting low flow monitoring in Redwood Creek during the past eight dry seasons. Flow monitoring results paint a dire picture of dry-season flows with flows in Redwood Creek mainstem typically measuring between 0 and 5 gallons per minute during the driest part of the year in late summer and early fall. Over the last several years, the dry conditions have lasted into November due to the late onset of rainfall.

The proposed Project includes construction of a 15.3 million gallon off-channel pond, associated pipelines, water chiller, and diversion pump station (requiring Appropriative Water Rights), ancillary water storage for domestic use and fire suppression, erosion control structures within intermittent streams, instream habitat enhancement structures along the Redwood Creek mainstem, and solar and micro-hydro energy generation system to offset the long-term energy use of project operations.

The Project would provide significant, measurable benefits in terms of dry season flow enhancement for coho salmon, steelhead, and other aquatic habitat along the 5.5 miles (mi) of Redwood Creek mainstem downstream from the Project. The Project is designed to deliver approximately 50 gallons per minute (GPM) of high-quality water during the five-month dry season, which will be wholly dedicated to instream values including reasonable and beneficial fish and wildlife uses of the water. Quantifiable long-term objectives include increased summer streamflow, enhanced fish and wildlife habitat, and improved water quality. An initial analysis of the reservoir operations show that flow releases are expected to have suitable water temperatures during the standard operating scenarios due to the depth of the pond and water released from the bottom of the pond. However, to address rare occurrences when released water may have elevated temperatures, an on-demand water chiller are proposed in the project design.

The proposed water diversion from Redwood Creek during the wet season will be managed to minimize the impacts to instream resources (i.e. sufficient water will be left instream to meet the need of aquatic habitat and senior diverters). A Draft Water Availability Analyses (WAA) was prepared by Stillwater Sciences and submitted to the State Water Board Division of Water Rights for review with the Appropriative Water Rights Application and also included in Attachment A of

this MND as Appendix C of the BOD Report. From the WAA, the preliminary proposed diversion restrictions are intended to minimize impacts to instream resources:

- Minimum bypass flow at the point of diversion = 5 cfs (~2,250 gpm)
- Maximum diversion rate of 5% of total flow (i.e. to achieve desired maximum diversion rate of 220 gpm, flows would need to be 10 cfs (4,500 gpm).

Note that CDFW and SWB are currently working on multiple flow-related studies and analyses focused on Redwood Creek, the results of which are expected to inform the final Water Availability Analyses Report and subsequent permitted diversion schedule/protocols. It is expected that ongoing collaboration between the project team and agency staff will result in agreed upon final diversion requirements which will be defined in the final Appropriative Water Right and Lake and Streambed Alteration Agreement. The goal of the Project is to reduce impacts of the wet-season diversion to less than significant levels while not unnecessarily limiting the project's ability to maximize dry season flow enhancement benefits.

Surrounding Land Uses: The lands surrounding the project consist of private holdings, small family farms, forests used for timber production, and conserved lands owned by federal and state agencies, non- profits, and sustainable forestry landowners. The proposed pond construction site is an ancient fluvial terrace primarily covered by grassland utilized for livestock grazing. The grassland is flanked to the east and west by intermittent drainages hosting corridors of bigleaf maple forest alliance. These drainages are incised and actively eroding, exporting deleterious fine sediment to Redwood Creek. Redwood Creek also exhibits anthropogenic degradation as it is incised and lacks large wood relative to historical conditions (CDFW 2014). Over the last several years, Redwood Creek has experienced completely dry conditions at two of the four mainstem Redwood Creek flow gages downstream from the proposed flow enhancement site (Stillwater Sciences, 2019).

Other Public Agencies Whose Approval Is Required (permits, financing approval, or participation agreement): U.S Army Corps of Engineers, National Marine Fisheries Service, U. S. Fish and Wildlife Service, North Coast Regional Water Quality Control Board, State Water Resources Control Board, California Department of Fish and Wildlife.

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

AB 52 has been requested. As described in detail below, a Cultural Resources Assessment has also been completed for the project site which recommends measures to avoid impacts to cultural resources. Through the Special Permit application process with the Humboldt County Planning Department in which began in July 2019, local tribes have also been notified of the project.

CEQA Requirement:
The Project is subject to the requirements of the California Environmental Quality Act (CEQA). The Lead Agency is the County of Humboldt (County), per CEQA Guidelines Section 21067. The purpose of this Initial Study (IS) is to provide a basis for determining whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration. This Initial Study is intended to satisfy the requirements of CEQA (Public Resources Code, Div 13, Sec 21000-21177) and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387).

CEQA encourages lead agencies and applicants to modify their projects to avoid potentially significant adverse impacts (CEQA Section 20180[c][2] and State CEQA Guidelines Section 15070[b][2]).

Section 15063(d) of the State CEQA Guidelines states that an IS shall contain the following information in brief form:

1) A description of the project including the project location
2) Identification of the environmental setting
3) Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to provide evidence to support the entries
4) Discussion of means to mitigate significant effects identified
5) Examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
6) The name of the person or persons who prepared and/or participated in the IS

The Finding: Although the projects may have the potential to cause minor short-term impacts on soil, vegetation, wildlife, water quality, and aquatic life, the measures that shall be incorporated into the project will lessen such impacts to a level that is less than significant (see initial study and environmental impacts checklist).

Basis for the Finding: Based on the initial study, it was determined there would be no significant adverse environmental effects resulting from implementing the proposed project. The project is designed to provide environmental benefit by enhancing and maintaining quality salmonid spawning and rearing habitat in the project area and downstream through augmentation of dry season stream flows.

Humboldt County finds that implementing the proposed projects will have no significant environmental impact. Therefore, this mitigated negative declaration is filed pursuant to the California Environmental Quality Act (CEQA), Public Resources Code § 21080 (c2). This proposed mitigated negative declaration consists of all of the following:

II. PROJECT INTRODUCTION AND BACKGROUND

INTRODUCTION

PROJECT SEQUENCE – PERMITTING, FUNDING AND IMPLEMENTATION

The Project aims to secure implementation funding from the CA Wildlife Conservation Board (WCB) Proposition 1 Streamflow Enhancement Program. The Project may also in the future aim to secure funding from other sources including (but not limited to) State Coastal Conservancy (SCC) Proposition 1, California Department of Fish and Wildlife (CDFW) Fisheries Restoration Grant Program (FRGP), Department of Water Resources (DWR) Proposition 1, and CDFW and WCB Proposition 68 Programs. These projects are subject to review under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

While the implementation may be funded by different sources over several years, the planning and permitting of the entire Project is currently funded by the WCB Proposition 1 Streamflow Enhancement Program and the documents that follow address the entire Project. This Initial Study and the MND describe and analyze the potential significant impacts of all Project treatments at all sites. Individual restoration activities will require additional environmental permitting from CDFW, State Water Resources Control Board (SWRCB), North Coast Regional Water Quality Control Board (NCRWQCB), and federal agencies. These individual restoration activities will also include monitoring and analysis of outcomes. It is anticipated that the majority of the implementation will occur during the period of June – October 2021, with the potential for some lesser amounts of work to occur in 2022.

PROJECT GOALS AND OBJECTIVES

The primary goal of the Project is to maintain vital salmonid rearing habitat in Redwood Creek through flow augmentation during the dry summer months. Creation and operation of the reservoir has the potential to prevent the drying of stream reaches and resulting salmonid mortality. The reservoir is anticipated to be a valuable management tool that can help improve resiliency of fish stocks to challenging environmental conditions. In addition to flow augmentation, rock weirs and large wood placements will improve fish habitat, and gully stabilization will reduce the delivery of fine sediment to Redwood Creek.

The Project addresses the goals and policies of the County General Plan's Water Resources element including the following:

WR-G2 - Water Resource Habitat. River and stream habitat supporting the recovery and continued viability of wild, native salmonid and other abundant coldwater fish populations supporting a thriving commercial, sport, and tribal fishery.

Relevant project actions: Deliver cool water to Redwood Creek during the summer low flow period, which will improve dry season survivability of juvenile anadromous salmonids.

WR-G9 - Restored Water Quality and Watersheds. All water bodies de-listed and watersheds restored, providing high quality habitat and a full range of beneficial uses and ecosystem services.

Relevant project actions: Redwood Creek currently experiences low flows and warm water temperatures during the summer and early fall months. Cool water flow augmentation from the Project will improve instream habitat quality and anadromous salmonid rearing habitat.

WR-P23 - Watershed and Community Based Efforts. Support the efforts of local community watershed groups to protect, restore, and monitor water resources and work with local groups to ensure decisions and programs take into account local priorities and needs.

Relevant project actions: The Project is a collaboration of the Marshall Ranch, Salmonid Restoration Federation, and state and federal agencies with the goal of restoring cool water flow to Redwood Creek during the summer dry season.

WR-P25 - State and Federal Watershed Initiatives. Support implementation of state and federal watershed initiatives such as the Total Maximum Daily Loads (TMDLs), the North Coast Regional Water Quality Control Board's (NCRWQCB) Watershed Management Initiative, the National Marine Fisheries Services and Department of Fish and Game coho recovery plans and the California Non-Point Source Program Plan.

Relevant project actions: The Project addresses the goals of the California Water Action Plan (SWRCB, 2019), Goal B of the WCB strategic plan (WCB, 2014), Goal 2 of the State Wildlife Action Plan (CDFW, 2015), and host of NOAA Fisheries' recovery actions for coho salmon in the South Fork Eel River. See below for additional detail regarding these goals.

WR-IMP19 - Coordinate and Support Watershed Efforts. Seek funding and work with land and water management agencies, community-based watershed restoration groups, and private property owners to implement programs for maintaining and improving watershed conditions that contribute to improved water quality and supply.

Relevant project actions: The Project is a collaboration of the Marshall Ranch, Salmonid Restoration Federation, and state and federal agencies. Funding for the Project was supplied by funded by the WCB Proposition 1 Streamflow Enhancement Program.

The Project addresses the goals of important statewide plans including the following:

The Project directly addresses the goals of the California Water Action Plan (SWRCB, 2019) and will ensure the restoration of critically important habitat. The Project supports the following actions: 1) Restoration of degraded stream ecosystems to assist in natural water management and improved habitat; 2) Enhancement of water flows in stream systems statewide; 3) Expansion of water storage capacity and improvement of groundwater management; and 4) Management and preparation for dry periods.

The Project addresses Goal B of the WCB strategic plan (WCB, 2014): Work with partners to restore and enhance natural areas, create viable habitat on working lands, manage adaptively, and ensure long-term ecosystem health and strategic direction. It also addresses goal B.1: Invest in projects and landscape areas that help provide resilience in the face of climate change, enhance water resources for fish and wildlife and enhance habitats on working lands. The Project includes a collaborative team of partners, will improve habitat on adjacent sustainable forestry working land, will include adaptive management, and will help ensure long term ecosystem health and resilience to climate change related drought as well as intensified rainfall events.

The Project also aligns with Goal 2 of the State Wildlife Action Plan (CDFW, 2015) – Enhance Ecosystem Conditions, and Goal 3 – Enhance Ecosystem Functions and Processes: Maintain and improve ecological conditions vital for sustaining ecosystems in California. Most specifically, the project improves the hydrologic regime and increases water quantity and availability vital for sustaining ecosystems.

NOAA Fisheries has prioritized a list of recovery actions for coho salmon in the South Fork Eel River Population chapter of their SONCC Recovery Plan (NMFS, 2014). The proposed strategy universal to the top 10 priority actions is listed as "Improve flow timing or volume." Additionally, Redwood Creek is repeatedly identified as a "stream where coho would benefit immediately," and afforded high priority among areas of the South Fork Eel River watershed. While specific action items for this strategy primarily focus on diversion reduction to improve flows, the Project's reservoir surely utilizes the same strategy to accomplish a common goal. Additionally, components of the project do align with specific action items in the recovery plan:

Strategy: Increase Channel Complexity

- SONCC-SFER.2.1.1.2 Place instream structures, guided by assessment results
- SONCC-SFER.2.2.3.1 Identify potential sites to create refugia habitats. Prioritize sites and determine best means to create rearing habitat

Strategy: Decrease water temperature, increase dissolved oxygen

- SONCC-SFER.10.1.48.2 Add LWD, boulders, or sources of structure as guided by assessment to augment habitat at cool water sources

Relevant project actions: Construction of 2 boulder weirs and 4 large wood structures.

Strategy: Reduce delivery of sediment to streams

- SONCC-SFER.8.1.15.3 Upgrade roads, guided by assessment

Relevant project actions: Culvert replacements, installation of drainage features, and surface treatments along the project access road.

The Project will incorporate post-project flow monitoring to measure project benefits and address potential concerns through adaptive management.

Finally, it is SRF's objective to implement this project while not causing a significant adverse effect on the environment or reducing the number or restricting the range of an endangered, threatened, or rare species. To this end, SRF has formed a working group Technical Advisory Committee (TAC) to provide input needed to ensure avoidance of adverse impacts while achieving the project objectives. The TAC will include representatives from the WCB, CDFW, NOAA, SWRCB, and NCRWQCB.

Examples of similar projects:
Specifically, there are several examples analogous to this Project where stored water is used to directly augment dry-season streamflow. Flow releases from two different agricultural ponds and one municipal groundwater well to tributaries of the Russian River in Sonoma County exhibit encouraging results. As described in Ruiz et al. (2019), the project began in 2015 and is ongoing. Data show that flow augmentations in all years from 2015-2018 were able to appreciably

increase wetted habitat, increase stream water dissolved oxygen, and decrease stream water temperature below the stored flow release points. Additionally, releases into Dutch Bill Creek averaging 36 GPM beginning in late August of 2015 were able to cumulatively re-wet more than 2,300 feet of stream channel with effects measurable up to 1.8 miles downstream.

While modest compared to winter flows, these augmentations have the potential to increase pool connectivity and water quality. A foundational hypothesis for this Project, that increased pool connectivity will bolster over-summer salmonid survival, is supported by the work of Obedzinski, Pierce, Horton, and Deitch (2018). Their study found that days of disconnected surface flow showed a strong negative correlation with juvenile coho salmon survival rate in 4 tributaries to the Russian River. Provided this evidence, it is anticipated that the Project's release of approximately 50 GPM into Redwood Creek throughout the dry season can result in significant habitat benefit.

BACKGROUND

Salmonid Restoration Federation (SRF) is a statewide non-profit organization that promotes restoration and recovery of wild salmon populations through education, outreach, and advocacy. Since 2013, SRF has been conducting low-flow monitoring and community outreach in the 26 square-mile Redwood Creek watershed that is a tributary to the South Fork Eel River.

SRF's low-flow monitoring and targeted outreach campaign was initially funded by the Humboldt Area Foundation (HAF) and CDFW. In 2014, SRF received a NCRWQCB 319(h) grant that enabled development of a Quality Assurance Project Plan for the monitoring project that included data loggers to capture continuous flow data. This grant allowed SRF to work with a prominent consulting hydrologist (Randy Klein) who oversaw our monitoring plan, developed discharge rating curves, and wrote a preliminary hydrology report that informed our planning efforts.

In 2015, SRF received a grant from the CDFW's Drought Solicitation that funded our organization to hire Stillwater Sciences to conduct a feasibility study investigating what types of flow enhancement actions were most likely to increase dry season flows within a portion of Redwood Creek and the Miller Creek sub-watershed. The feasibility study resulted in a prioritized list of actions, with the Marshall Ranch site (described herein as the Project) identified as the project with the greatest potential to increase dry-season flows.

A productive partnership between SRF, Stillwater Sciences, the Marshall Ranch and Hicks Law, as well as support from representatives from multiple state agencies including WCB, CDFW, NOAA, NCRWQCB, and SWRCB, has enabled this planning project to move forward expeditiously. Two additional team members have been brought onto the Project to support the planning and design efforts: SHN Engineers and Geologists to provide support for the geotechnical investigation and engineering design of hydraulic appurtenances, and William Rich and Associates to assess cultural resources.

This project will be integrated alongside a conservation easement encompassing the Marshall Ranch ownership managed by California Rangeland Trust. This conservation easement will prevent the subdivision and sale of the majority of the ranch. These restrictions will be especially beneficial in this area, where small subdivisions are frequently used for cannabis cultivation with detrimental impacts to water quality and supply, and fish and wildlife habitat.

SRF currently has three Wildlife Conservation Board streamflow enhancement planning grants including the grant to develop the Marshall Ranch implementation project.

Additionally, SRF's Executive Director, Dana Stolzman, has written a Collaborative Water Management guidebook to assist other coastal watersheds in flow enhancement planning efforts. This resource can be found at http://www.calsalmon.org/sites/default/files/files/CWM_Final_Report.pdf

SRF was also awarded the 2018 Water Quality Stewardship Award from the North Coast Regional Water Quality Control Board for "exemplary work in advancing the science and practice of stream restoration and salmonid protections on the North Coast."

SRF is excited to be the project proponent of the Marshall Ranch planning and implementation project. We believe that our years of work in this critical tributary and our history of working with this outstanding project team will be a valuable asset to see this restoration project to completion.

Project Planning and Design

Over the past two years, the project team has conducted project planning and assessments including topographic surveys, subsurface investigations, biological and cultural resource surveys and reports, pre-project flow monitoring and preparation of 30% and draft and final 65% design plans. Agency and stakeholder input has been sought including a field trip to the project sites.

Project design is based on the best available science and is informed by the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010) and Ponds – Planning, Design, Construction (USDA 1997). Additionally, the Project is informed by scientific studies and streamflow enhancement techniques that have been used in the Mattole and Russian River watersheds.

Following development of the draft 65% designs in September 2019, concerns were raised by downslope landowners that the proposed pond and associated grading and infrastructure may not meet the desired level of long-term safety, especially during the rare case of a large rainfall event coupled with a large magnitude earthquake. Based on these concerns, additional analyses have been conducted including further assessment of potential pond failure mechanisms, seismic slope stability analyses under worst-case current and proposed conditions, dam breach analysis, as well as an assessment of long-term operations, maintenance and monitoring costs. Based on these analyses, numerous significant modifications were made to the project design to ensure long term stability of the project:

1) Lowering the pond berm elevation by eight feet which resulted in a grading approach with significantly more excavation into the terrace – note that this design change reduced pond capacity from 16.3 million gallons to the current volume of 15.3 million gallons;
2) Relocation of the pond spillway;
3) Installation of a pond liner, French drain, and subsurface restrictive barrier;
4) Grade control structures in central gully; and
5) Construct a 7.5 KW solar array, micro-hydro turbine, backup battery bank, inverter, grid intertie system and control center building to offset the Project's energy use and provide backup power during outages to maintain operations and monitoring capabilities.

These design modifications are described in detail in the Basis of Design Report included as Attachment A of this MND and discussion in the applicable project impacts sections of this document.

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a **"Potentially Significant Impact"** as indicated by the checklist on the following pages.

❑ Aesthetics	❑ Agricultural and Forestry Resources	❑ Air Quality
☒ Biological Resources	☒ Cultural Resources	❑ Energy
☒ Geology/Soils	❑ Greenhouse Gas Emissions	❑ Mineral Resources
☒ Hazards/Hazardous Materials	❑ Land Use/Planning	☒ Noise
☒ Hydrology/Water Quality	❑ Population/Housing	❑ Public Services
❑ Recreation	❑ Transportation/Traffic	❑ Tribal Cultural Resources
☒ Utilities/Service	☒ Mandatory Findings of Significance	

An explanation for all checklist responses is included, and all answers take into account the whole action involved, including off-site as well as on-site; cumulative as well as project-level; indirect as well as direct; and construction as well as operational impacts. In the checklist the following definitions are used:

"**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.
"**Potentially Significant Unless Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.
"**Less Than Significant Impact"** means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.
"**No Impact"** means that the effect does not apply to the Project, or clearly will not impact nor be impacted by the Project.

DETERMINATION: (To be completed by the Lead Agency on the basis of this initial evaluation)

- ❑ I find that the proposed project **could not** have a significant effect on the environment, and a **Negative Declaration** will be prepared.
- ☑ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **Mitigated Negative Declaration** will be prepared.
- ❑ I find that the proposed project **may** have a significant effect on the environment, and an **Environmental Impact Report** (EIR) is required.
- ❑ I find that the proposed project **may** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, but it must analyze only those effects that remain to be addressed.
- ❑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **Negative Declaration** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **Negative Declaration**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Joshua Dorris

10/28/2020

Signature

Date

Joshua Dorris, Planner

For Humboldt County Planning and Building Department

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each questions. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be citied in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The analysis of each issue should identify:

   a) the significance criteria or threshold used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	X	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	X	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	X	☐

Discussion:

(a) Less Than Significant Impact: The project will not have a significant effect on a scenic vista. Such an impact will not occur because the project will not be readily visible from Briceland Road or any other heavily traveled local roadway. The placement of the small solar array has been designed with consideration of maintaining low visibility and the pond and restoration features will be aesthetically pleasing and will serve to restore to the watershed to a more natural condition with water flowing in Redwood Creek during the dry season offsetting human consumptive use.

(b) No Impact: The project will not damage scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway. Such an impact will not occur because the project is not located in the vicinity of a state scenic highway.

(c) Less Than Significant Impact: The project will not substantially degrade the existing visual character or quality public views of the sites and their surroundings because there are no publicly accessible vantage points overlooking the project site. Access to the site is via a private drive and any overlooking locations are within the Marshall Ranch or adjacent private properties. Adjacent neighbors may experience some degraded visual character due to installation of the small solar array and graded berms. However, through careful planning and design, the natural character of the site will be maintained to the greatest extent practical while still achieving the project objectives. Solar array layout has been based on consideration of visual effects and final berm grading will be blended in with natural topographic features. In addition, planting of native trees, shrubs and other vegetation will be performed at all sites where vegetation has been removed or fill has been placed. It is also important to consider that the overall goal of this project is to enhance dry season flows in Redwood Creek which will restore the natural character of a significant portion of the watershed.

(d) Less Than Significant Impact: The project will not create a new source of substantial light which would adversely affect day or nighttime views in the area of the worksites. Such an

impact will not occur because the restoration project does not require installation of artificial lighting. It is possible that some glare may be created by the solar panels. However, any receptors of glare created by the solar panels would be expected to occur to the south of the project area based on the southern orientation of the panels. The land to the south of the project is almost entirely large parcels utilized for ranching and timber and there are no residences located to the south of the project. Also, the size of the solar array has been significantly reduced to a ~500 SF footprint in the current project design. Therefore, the project would have a less than significant impact.

II. Agriculture and Forestry Resources. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	

Discussion:
The project is located on land that is zoned by Humboldt County as Residential Agriculture and periodically used for grazing livestock. Fish and wildlife management are allowable uses on this zoning.

(a) No Impact: The Farmland Mapping and Monitoring Program has not mapped farmlands in Humboldt County. Therefore, no land in the County is considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency. Therefore, there would be no impact.

(b) No Impact: The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. The project is located on land that is zoned by Humboldt County as Residential Agriculture and periodically used for grazing livestock. Fish and wildlife management (one of the primary purposes of the project) is an allowable use on this zoning. The project parcel is not under a Williamson Act contract, therefore there would be no impact.

(c) No Impact: The project is zoned as Residential Agriculture and as such will not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timber zoned Timberland Production.

(d) No Impact: No trees will be removed, and no loss or conversion of forest land will occur.

(e) Less Than Significant Impact: The project will not involve other changes in the existing environment, which due to their location or nature, could result in significant conversion of farmland to non-agricultural use. Fisheries habitat restoration actions either are away from, or are compatible with, existing agricultural uses. The proposed reservoir is located in an open grassland and will utilize some of the space that could be used for periodic grazing. However, it represents a very small percentage of the overall ranch ownership. Additionally, the project design will allow for future cattle grazing within portions of the project footprint, (following several years of revegetation) and will also enhance water availability for livestock while reducing livestock impacts to watercourses via fencing.

III. Air Quality. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				X

Discussion:
Humboldt County is designated as 'in attainment' for all National Ambient Air Quality Standards (NAAQS or federal standards). Humboldt County is designated as 'in attainment' for all California Ambient Air Quality Standards (CAAQS or State standards) pollutants except PM_{10}. The North Coast Unified Air Quality Management District (NCUAQMD) has not formally adopted significance thresholds that would apply to projects such as this. For construction emissions, the NCUAQMD has indicated that construction emissions are not considered regionally significant for projects that will be of relatively short duration (less than one year) (NCUAQMD 2015).

Impacts related to construction dust are considered significant if dust is allowed to leave the site (NCUAQMD 2015). Construction activities are subject to Rule 104 (Prohibitions) Section D (Fugitive Dust Emission). Pursuant to Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to: 1) covering open bodied trucks when used for transporting materials likely to give rise to airborne dust; and 2) the use of water during the grading of roads or the clearing of land.

(a) Less than significant: The construction portion of the project will last for less than one year (June 1 to November 1). During this period, the project will comply with Rule 104, Section D and cover open body trucks hauling materials off site and use water during the grading of roads, excavation, and land clearing.

(b) Less than significant: Humboldt County is in attainment of all air quality standards, except PM_{10}. The project will comply with Rule 104, Section D and cover open body trucks hauling materials off site and use water during the grading of roads, excavation, and land clearing. Therefore, the project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under applicable federal or state ambient air quality standards.

(c) Less than significant: The project will not expose sensitive receptors to substantial pollutant concentrations. Such an impact will not occur because the project will not increase pollutant concentrations and is designed in part to reduce dependency on fossil fuel generated

electricity through the installation of the solar array and micro hydro system to offset the Project's long-term energy use. There is the potential for fugitive dust to travel off site and expose neighbors. However, the project will comply with Rule 104, Section D and cover open body trucks hauling materials off site and use water during the grading of roads, excavation, and land clearing. Therefore, it is not expected that sensitive receptors would be exposed to substantial concentrations of PM_{10}.

(d) No Impact: The project will not create other emissions (such as objectionable odors) affecting a substantial number of people.

IV. Biological Resources. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

Special-status species are defined in this ISMND as those that are:

- listed as endangered or threatened, rare, or proposed/candidates for listing under the ESA and/or CESA;
- designated by CDFW as a Species of Special Concern;
- have a California Rare Plant Rank (CRPR) of 1, 2, 3 or 4; and/or
- have a state ranking of S1, S2, or S3 (critically imperiled, imperiled, or vulnerable, respectively) on CDFW's California Sensitive Natural Communities List (CDFW 2018a).

An in-depth review of the project site and surrounding area was conducted using desktop and field reviews (Appendix K of the BOD Report). The desktop review included querying the following resources:

- The U.S. Fish and Wildlife Service (USFWS) online Information for Planning and Consultation (IPaC),
- The California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Vascular Plants of California,
- CDFW's California Natural Diversity Database (CNDDB),
- CDFW's CNDDB northern spotted owl viewer, and

- National Marine Fisheries Service's (NMFS) California Species List Tools database (NMFS 2019).

The desktop review generated a list of special status plant and wildlife species with potential to inhabit the project area (Tables 1 and 2). The field review was conducted on 3 May 2019 and was used to assess habitat for the species on the list, determine their potential to be present, and identify what project-related effects on these species would occur, if any. Please see Appendices F and K of the BOD report in Attachment A for more detailed information.

Table 1. Special status plant species with the potential to be present in or around the Project Area.

Scientific name (common name)	Status (Federal, State, CRPR[1])	Habitat association[2]	Source	Likelihood of occurrence
Astragalus agnicidus (Humboldt County milk-vetch)	None/CE/1B.1	Openings, disturbed areas, and sometimes roadsides in broadleafed upland forest and north coast coniferous forest; 390–2,625 ft. Blooming period: April–September	CNPS, CDFW	**Moderate:** Broadleafed upland and north coast coniferous forest habitats present within Project area. Two occurrences within 5–10 mi of the Project area.
Coptis laciniata (Oregon goldthread)	None/None/4.2	Mesic meadows and seeps and streambanks in north coast coniferous forest; 0–3,280 ft. Blooming period: (February) March–May (September–November)	CNPS, CDFW	**Moderate:** North coast coniferous forest habitat present within Project area. Two occurrences within 5–10 mi of the Project area.
Erythronium oregonum (giant fawn lily)	None/None/2B.2	Sometimes serpentinite, rocky, openings in cismontane woodland and meadows and seeps; 325–3,775 ft. Blooming period: March–June (July)	CNPS, CDFW	**Moderate:** Cismontane woodland habitat present within Project area. No ultramafic soils mapped or observed in Project area. One occurrence is within 5–10 mi of the Project area.
Erythronium revolutum (coast fawn lily)	None/None/2B.2	Mesic, streambanks, bogs and fens, broadleafed upland forest, and north coast coniferous forest; 0–5,250 ft. Blooming period: March–July (August)	CNPS, CDFW	**Moderate:** Broadleafed upland and north coast coniferous forest habitats present within Project area. Two occurrences within 5–10 mi of the Project area.
Gilia capitata subsp. *pacifica* (Pacific gilia)	None/None/1B.2	Coastal bluff scrub, openings in chaparral, coastal prairie, and valley and foothill grassland; 15–	CNPS, CDFW	**Moderate:** Chaparral and valley and foothill grassland habitats present within Project

Scientific name (common name)	Status (Federal, State, CRPR[1])	Habitat association[2]	Source	Likelihood of occurrence
		5,465 ft. Blooming period: April–August		area. Multiple occurrences within 5–10 mi of the Project area.
Montia howellii (Howell's montia)	None/None/2B.2	Vernally mesic, sometimes roadsides in meadows and seeps, north coast coniferous forest, and vernal pools; 0–2,740 ft. Blooming period: (February) March–May	CNPS, CDFW	**Moderate:** North coast coniferous forest habitat present within Project area. Two occurrences within 5–10 mi of the Project area.
Piperia candida (white-flowered rein orchid)	None/None/1B.2	Sometimes serpentinite in broadleafed upland forest, lower montane coniferous forest, and north coast coniferous forest; 95–4,300 ft. Blooming period: (March) May–September	CNPS, CDFW	**Moderate:** Broadleafed upland, lower montane coniferous, and north coast coniferous forest habitats present within Project area. No ultramafic soils mapped or observed in Project area. Multiple occurrences within 1 mi of the Project area.
Usnea longissima (Methuselah's beard lichen)	None/None/4.2	On tree branches, usually on old growth hardwoods and conifers in broadleafed upland forest and north coast coniferous forest; 160–4,790 ft. Blooming period: N/A (lichen)	CNPS, CDFW	**Moderate:** Broadleafed upland and north coast coniferous forest habitats present within Project area. Multiple occurrences within 5–10 mi of the Project area.

Table 2. Special status wildlife species with the potential to be present in or around the Project Area.

Species name	Status[1] Federal/ State	Distribution and habitat associations	Location of suitable habitat in Project area	Likelihood of occurrence
Fish				
Oncorhynchus kisutch (Coho salmon – southern Oregon/ northern California coast Evolutionarily Significant Unit)	FT, CH/ST	Spawn in coastal streams and large mainstem rivers (i.e., Klamath/Trinity rivers) in riffles and pool tails-outs and rear in pools ≥ 3 ft deep with overhead cover with high levels oxygen and temperatures between 50–59°F.	Suitable habitat occurs in the South Fork Eel River and Redwood Creek.	**High**: Present in Redwood Creek.
Oncorhynchus tshawytscha (Chinook salmon – California Coastal ESU*)*	FT, CH/None	Wild coastal, spring, and fall-run Chinook found in streams and rivers between Redwood Creek, Humboldt County to the north and the Russian River, Sonoma County to the south.	Suitable habitat occurs in the South Fork Eel River and Redwood Creek.	**High**: Present in Redwood Creek.
Oncorhynchus mykiss (Steelhead – northern California coast Distinct Population Segment)	FT, CH/None	Inhabits small coastal streams to large mainstem rivers with gravel-bottomed, fast-flowing habitat for spawning. However, habitat criteria for different life stages (spawning, fry rearing, juvenile rearing) are can vary significantly.	Suitable habitat occurs in the South Fork Eel River and Redwood Creek.	**High**: Present in Redwood Creek.
Entosphenus tridentatus (Pacific lamprey)	None/SSC	Similar to anadromous salmonids, inhabits coastal streams and rivers with gravel-bottomed, fast-flowing habitat for spawning. Ammocoetes rear in backwater areas with sand, silt, and organic material for 4 to 10 years before migrating to the ocean.	Suitable habitat is present and spawning/rearing occurs in the South Fork Eel River. Spawning and rearing habitat is likely to occur in Redwood Creek.	**High:** Suitable habitat present.

Species name	Status[1] Federal/ State	Distribution and habitat associations	Location of suitable habitat in Project area	Likelihood of occurrence
		Amphibians		
Rana boylii (Foothill yellow-legged frog, North Coast Clade)	None/SSC	Associated with partially shaded, shallow streams, and riffles with rocky substrate. Some cobble-sized substrate required for egg laying. Adults move into smaller tributaries after breeding.	Suitable habitat is present and breeding occurs in the South Fork Eel River. Observed in Redwood Creek downstream of Project area.	**High**: Suitable habitat present.
Taricha rivularis (Red-bellied newt)	None/SSC	Ranges from southern Humboldt to Sonoma counties. Found in streams during breeding season. Moist habitats under woody debris, rocks, and animal burrows.	Suitable habitat is present and sightings have occurred in the Mattole River, approximately 5 mi west of the Project area.	**High**: Habitat present in the Project area.
		Birds		
Strix occidentalis caurina (Northern spotted owl)	FT/ST	Typically found in large, contiguous stands of mature and old-growth coniferous forest with dense multi-layered structure.	Suitable foraging habitat is present within the Project area. Habitat within the Project area is unsuitable for nesting. The closest activity center is over 1.7 mi to the south-southeast of the Project area.	**Moderate**: Suitable foraging habitat exists in the Project area.
Asio otus (Long-eared owl)	None/SSC	Distributed throughout North America. Recorded in north coast from Bald Hills, Humboldt County to Willits, Mendocino County. In Humboldt County, nest in mixed stands of conifers and oaks with edges and openings such as meadows or prairies.	Suitable nesting and foraging habitat present in the Project area.	**High**: Habitat present in the Project area.
		Reptiles		
Emys marmorata (Western pond turtle)	None/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with abundant vegetation, and either rocky or muddy bottoms, in woodland forest and	Suitable habitat occurs in the South Fork Eel River. Ponds that may contain western	**Moderate.** May occur in neighboring ponds.

Species name	Status[1] Federal/ State	Distribution and habitat associations	Location of suitable habitat in Project area	Likelihood of occurrence
		grasslands. Below 6,000 ft elevation. Basking sites are required. Egg-laying sites are located on suitable upland habitats (grassy open fields) up to 1,640 ft from water.	pond turtles are located on neighboring properties.	
Mammals				
Arborimus pomo (Sonoma tree vole)	None/SSC	Associated nearly exclusively with Douglas-fir trees and occasionally grand fir trees within the north coast fog belt between the northern Oregon border and Sonoma County. Eats Douglas-fir needles exclusively.	Early to mid-seral Douglas-fir stands are present adjacent to the Project area, which could provide nesting and foraging habitat.	**High**: Recorded occupying timber stands adjacent to the Project area
Corynorhinus townsendii (Townsend's big-eared bat)	None/SSC, CT	Found throughout California in all but subalpine and alpine habitats. Roosts in cavernous habitats, usually in tunnels, caves, buildings, mines, and basal hollows of trees, but also rock shelters, preferentially close to water. Caves near water's edge are favored. Forages in riparian zone and follows creeks and river drainages on foraging bouts. Feeds primarily on moths. Drinks at stream pools.	Suitable foraging habitat throughout most of the Project area; however, barns, old buildings, and bridges for roosting are not present within the Project area.	**Moderate**: May be present in some of the barns and older structures adjacent to the Project area.
Antrozous pallidus (Pallid bat)	None/SSC	Found throughout California. Roosts in rock crevices, outcrops, cliffs, mines, and caves; trees (underneath exfoliating bark of pine and oak) and in basal hollows; and a variety of vacant and occupied structures (e.g., bridges) or buildings. Roost individually or in small to large colonies (hundreds of individuals). Feeds low to or on the ground in a variety of open habitats, primarily on ground-dwelling arthropods.	Suitable foraging habitat throughout most of the Project area, however, barns, old building, and bridges are not present within the Project area.	**Moderate**: May be present in some of the older structures adjacent to the Survey Area

Species name	Status[1] Federal/ State	Distribution and habitat associations	Location of suitable habitat in Project area	Likelihood of occurrence
		Forages most frequently in riparian zone, in open oak savannah, and open mixed deciduous forest. Drinks at stream pools.		

(a) Less Than Significant with Mitigation Incorporated: The project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW), National Oceanic and Atmospheric Administration (NOAA) or U.S. Fish and Wildlife Service (USFWS). All effects will be less than significant with the incorporation of the mitigation measures listed below and in Appendix K of the BOD Report.

Plants

No special-status plant species were observed during the protocol-level botanical survey conducted in the Project area on 4 May 2019 (see Appendix F of BOD Report). In addition, there are no records of special-status plant occurrences within the Project area based on the 2019 CDFW CNDDB queries and collection records in the Consortium of California Herbaria (ucjeps.berkeley.edu/consortium). As such, Project activities will have no impact on known special-status plant populations. However, the following design features are incorporated into the project description and discussed further in Appendix F of BOD Report.

- The Project footprint will be minimized to the extent possible.
- The pond will be positioned to minimize impacts on existing vegetation to the extent possible.
- Ground disturbance and vegetation clearing and/or trimming will be confined to the minimum amount necessary to facilitate Project implementation.
- Heavy equipment and vehicles will use existing access roads to the extent possible.
- Construction materials will be stored in designated staging areas.
- Measures to prevent the spread of invasive weeds and sudden oak death pathogens will be taken, including, where appropriate, inspecting equipment for soil, seeds, and vegetative matter, cleaning equipment, utilizing weed-free materials and native seed mixes for revegetation, and proper disposal of soil and vegetation.
- Disturbed soils areas will be revegetated with native grasses and forbs. Please see the erosion control and revegetation sheet in the project design package.

Fish

Coho and Chinook salmon, steelhead, and Pacific lamprey are special-status fish species known to occur in Redwood Creek within to the Project area. Project-related impacts on these species could result from discharge of sediment from reservoir and infiltration gallery excavation, gully stabilization, instream habitat enhancement, contact with heavy equipment, entrainment into dewatering pumps. and offset well construction.

There would be long-term beneficial effects for fish and habitat resulting from the addition of wood and project water to the stream channel. The increase in wood structures would result in localized scour and help create pool and cover habitat for fish. The input of water during the

summer and late fall from the infiltration gallery would increase summer and fall flow in Redwood Creek during the dry season. It is expected that coho salmon and steelhead will benefit from the infusion of cool project water during the summer and fall months. Stabilization of the gullies on the property would reduce sediment input into Redwood Creek and adverse effects on spawning and rearing habitat for fish.

The following measures, and those in Appendix K of the BOD Report, will be employed by the Project to avoid, minimize, or mitigate indirect sediment-related impacts on special-status fish species and their habitat.

BIO-1: The use of cofferdams will contain any turbid water produced during the Project within the work area, thereby avoiding impacts on downstream salmonids. Any turbid water within the confined work areas would be pumped to a receiving site outside the channel or to tanks. Any turbid water within the work area would be allowed to settle prior to removal of the cofferdams, thereby minimizing downstream effects on salmonids.

BIO-2: Discharge of sediment will be controlled and minimized with the implementation of best management practices (BMPs) on all disturbed soils that have the potential to discharge into area watercourses. Applicable BMPs include, but are not limited to, installation of silt fences, straw wattles, and placement of seed-free rice straw. BMPs will be installed at all access points to the work sites, which will minimize the potential for sediment delivery and deleterious effects on salmonids.

BIO-3 - All gully stabilization work will be conducted when the individual sites are dry (i.e. no surface water).

BIO-4: A June 15 – November 1 instream work window will be established to allow time for young-of-the-year salmonids to be very mobile and capable of avoiding injury. The work window will also allow downstream migration of smolts to be completed prior to any Project-related channel disturbance taking place. In addition, the work window coincides with the summer low-flow season during which flow in the creek will be at its summer base flow. Finally, the November 1 date will ensure all work is done prior to the rainy season and arrival of any upstream migrating adult salmonids.

BIO-5: Prior to the initiation of any instream work in areas with surface water, a qualified biologist will survey the site to determine fish presence. The biologist will implement an aquatic species removal and relocation plan to move any fish or amphibians that may be in work sites to suitable habitat downstream. Block nets will be installed to prevent fish from reentering the work area. Any fish remaining in the work area will be captured by hand, dip net, or as a last resort, using a backpack electrofisher. Cofferdams will be constructed in the channel at sites where streamflow is present. Water will then be diverted around the work area.

BIO-6: The Project will follow the Fish Screening Criteria for Salmonids (NMFS 1997), NOAA Restoration Center/Army Corps of Engineers programmatic biological opinion requirements.

Wildlife

Foothill yellow-legged frogs

The reservoir and infiltration gallery construction activities will take place in open meadow areas not utilized by foothill yellow-legged frogs. However, foothill yellow-legged could be affected by proposed activities that would take place within Redwood Creek and at gully stabilization sites.

Impacts on adult, juvenile, or larval frogs could occur through direct contact with heavy equipment or disturbed soil. Adverse impacts could occur from instream structure construction, dewatering of work areas, trampling of larvae during instream operations, contact with heavy equipment, and sediment discharge. The gully stabilization sites are not utilized by foothill yellow-legged frogs for breeding or larval rearing and impact on these life history stages would not occur at these locations.

The Project would result in the development of additional instream habitat, which should benefit foothill yellow-legged frogs by maintaining and potentially expanding the amount of instream habitat available for breeding and larval development in Redwood Creek.

The following mitigation measures, and those Appendix K of the BOD Report, will be employed to avoid or minimize effects on foothill yellow-legged frogs:

BIO-7: An egg mass survey will be conducted in May prior to the construction season to determine if breeding occurs within the Project reaches.

BIO-8: A visual observation survey of the project areas will be conducted within two weeks prior to the start of construction to determine if adult and juvenile foothill yellow-legged frogs are present in the Project area.

BIO-9: If foothill yellow-legged frogs are present, then a qualified CDFW-approved biologist will be present immediately prior to the start of construction to remove any frogs and relocate them in suitable habitat.

BIO-10: The Project manager or qualified designee will conduct daily morning inspections of the area slated for work to determine if amphibians entered the areas overnight. Any individuals will be captured and relocated prior to the start of the day's work.

Red-bellied newt

Adult and juvenile red-bellied newts would likely be occupying terrestrial areas during the operation period and could be affected by heavy equipment that collapses burrows or moves woody debris. Larval newts have the potential to be present in areas that could be affected by instream operations. Mitigation measure BIO 10, those in Appendix K of the BOD Report, and the following will be employed to avoid or minimize the potential for take of red-bellied newt:

BIO-11: Terrestrial woody debris will be left in place to the greatest extent practicable during operations within the riparian areas.

BIO-12: Prior to the initiation of any instream work in areas with surface water, a qualified biologist will survey the site to determine larval newt presence. If red-bellied newts are present, then a qualified CDFW-approved biologist will be present immediately prior to the start of operations to remove any individuals and relocate them in suitable habitat.

The Project will result in the development of additional instream habitat, which should benefit red-bellied newts by maintaining and potentially expanding the amount of instream habitat available for breeding and larval development.

Northern spotted owl

The closest northern spotted owl activity center to the Project is approximately 1.7 mi away from the Project area and recent surveys (i.e., within the last four years) have not documented nesting within this activity center (Appendix K of the BOD Report). Nesting habitat does not occur within the Project area or in the adjacent forest. The Project activities do not include

removal of any trees that could provide habitat for owls. Therefore, there will not be any direct impacts on northern spotted owls or their habitat. However, there is the potential for construction-related noise to affect northern spotted owls that may be on adjacent properties or away from the Project area.

The potential for Project construction to indirectly impact nesting northern spotted owls was preliminary evaluated using USFWS (2006) guidelines. Owls can be affected by noise-related, visual, or physical disturbances, such as created by heavy equipment. USFWS (2006) identifies the distance that sound associated with different types of construction equipment is estimated to disturb northern spotted owls during the breeding season, relative to ambient noise levels. Most types of standard construction equipment (e.g., backhoes, bulldozers, construction vehicles, etc.) would require disturbance buffers of 330–1,320 ft from nesting spotted owl activity centers. No Project activities utilizing these types of equipment are expected to occur within 1,320 ft of a northern spotted owl nest. In addition, as stated above, recent surveys have not found nesting northern spotted owls with the closest known activity center (1.7 mi from the Project area). Therefore, project effects on northern spotted owls would be less than significant.

Long-eared owl

Long-eared owls have not been observed within 17 mi of the Project area (Appendix K of the BOD Report). However, this species nests in conifer and oak woodlands that are either open or are adjacent to grasslands, meadows, or shrublands. These habitats exist within the Project area, although no evidence of occupancy was observed during the field survey. Construction activities associated with the Project would not affect nesting or roosting habitat since no trees would be removed. However, potential foraging habitat could be affected due to the construction of the reservoir and infiltration gallery. In addition, construction noise may affect nesting owls.

The construction of the reservoir will result in approximately 6.5 ac of grazed grassland area being permanently converted to open water and associated containment berm features. This conversion could affect the amount of foraging habitat available for long-eared owls. A preliminary estimate of available grasslands in the Briceland area conducted using satellite imagery showed approximately 470 ac of grassland (not including numerous small openings) within a one-mile radius of the Project area. The Project would convert approximately 1.4% of this area to reservoir, a relatively minor impact in consideration of the amount of suitable foraging habitat in the vicinity and the lack of evidence indicating species presence in and around the Project area.

The following conservation measure will be employed to avoid or minimize the potential for impacts on long-eared owls:

BIO-13: A pre-construction nesting bird survey will be conducted during the breeding season and within two weeks of the start of construction. Appropriate buffers will be established around all active nests within the Project area.

Sonoma tree vole

Suitable habitat for Sonoma tree voles is present in the timber stand adjacent to the Project area. The Project will not occur within the forest nor remove any trees; therefore, there will be no impact on this species.

Pallid bat

Suitable habitat for pallid bats is present in the timber stand adjacent to the Project area. The Project will not occur within the forest nor remove any trees or structures that could be occupied by this species; therefore, there will be no impact on pallid bat.

Townsend's big-eared bat

Suitable habitat for Townsend's big-eared bats is present in the timber stand adjacent to the Project area. The Project will not occur within the forest nor remove any trees or structures that could be occupied by this species; therefore, there will be no impact on Townsend's big-eared bat.

Western pond turtles

Redwood Creek, within the Project area has a relatively closed canopy, which would limit the basking opportunities for turtles. In addition, water flow during the summer months is very low or intermittent, which is not the preferred habitat for turtles. In addition, there are no ponds in the Project area that could contain this species. However, there is the potential that turtles could be within the Project area at the start of construction.

The following mitigation measure, along with those in Appendix K of the BOD Report, will be employed to avoid or reduce impacts on western pond turtles to a less than significant level:

BIO-14: Prior to the initiation of any instream work in areas with surface water, a qualified biologist will survey the site to determine turtle presence. The biologist will capture and relocate any turtle that may be in work sites to suitable habitat downstream. Block nets will be installed to prevent turtles from reentering the work area.

Bullfrogs

The construction and operations of the pond has the potential to create habitat for bullfrogs and subsequently impact native species. The following avoidance and minimization measures will be incorporated in the project design, monitoring and maintenance plan. In order to avoid bullfrogs from infesting the project sites the following strategies will be implemented:

a) Landowner and resident education is one of the most important strategies, as people have been known to intentionally introduce bullfrogs to local bodies of water as a source of food.

b) Monitoring of project sites will also be very important as early detection, before populations can get established, is a key component of control. Monitoring will be conducted as per Exhibit A in Appendix K of the BOD Report: Bullfrog Monitoring and Management Plan prepared by CDFW.

c) If needed, the off-channel pond may be drained. David Manthorne, CDFW Senior Environmental Scientist recommends draining of ponds if invasive bullfrogs are present to interrupt their life cycle (CDFW Compliance Guidance). According to research by Doubledee et al, 2007, "*Bullfrogs, Disturbance Regimes, and the Persistence of California Red-Legged Frogs",* draining of ponds can be effective for bullfrog management if draining occurs at least every 2 years.

d) If annual monitoring shows that bullfrogs are present, active measures will be taken in consultation with CDFW and will follow the methods described in Exhibit A of BOD Appendix K: Bullfrog Monitoring and Management Plan

(b) Less than Significant: The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies and regulations, or by CDFW or USFWS.

One sensitive natural community, *Acer macrophyllum* Forest Alliance (S3), was observed within the Project area (Appendix F of the BOD Report). This alliance comprised the riparian forest (also under CDFW preliminary jurisdictional throughout the Project area) adjacent to Redwood Creek and its tributaries in the Project. Some minor disturbance is anticipated within this natural community during the instream habitat enhancement and gully stabilization Project activities. Installation of the off-channel reservoir will not affect this sensitive natural community, as it will replace a portion of the annual/perennial grassland in the Project area. Also, it is expected that the gully stabilization work will provide groundwater storage benefits, which could enhance riparian vegetation in those locations.

Some minor disturbance is expected where proposed instream structures are keyed into the stream banks. Riparian vegetation will be reestablished where construction activities disturb existing plants, and additional native plants will be planted to enhance the riparian vegetation. Mitigation measures to minimize impacts on riparian habitat are found in Appendix K of the BOD Report and include:

BIO-15: 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.

BIO-16: 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.

BIO-17: 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). 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.

BIO-18: 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.

BIO-19: 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.

BIO-20: 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.

BIO-21: If riparian vegetation is to be removed with chainsaws, the Permittee shall use saws that operate with vegetable-based bar oil when possible.

(c) No impact: The project will not have a substantial adverse effect on federally protected wetlands as defined by § 404 of the Clean Water Act as there are no USACE jurisdictional wetlands within the project area. Two small state jurisdictional isolated wetlands have been mapped on the parcel but will not be disturbed as the result of any proposed project. The project actions will have either no effect on wetlands or will be beneficial to wetlands.

(d) Less Than Significant Impact with Mitigation Incorporated: The instream construction portion of the project that requires the installation of cofferdams and dewatering of the work area will temporarily affect migration of fish between habitat units. However, this disruption in the ability of fish to migrate will only occur during the brief instream construction period. In addition, the instream part of the project is timed to begin after the downstream salmonid smolt migration has ceased. The project would end prior to the start of the upstream migration season for adult salmonids.

Once completed, the project will result in a substantial improvement in the ability of juvenile fish to migrate between habitat units during the dry season. This is due to the discharge of project water from the pond into Redwood Creek. It is expected that the augmented flow will help maintain a single thread channel and connectivity between habitat units that is currently lacking during dry years. In addition, the project includes the installation of instream habitat structures that are designed to create pool and cover habitat. This will improve the rearing habitat in Redwood Creek. These design features and implementation of the mitigation measures **BIO-4, -5, and -6** described above and in Appendix K of the BOD Report will reduce impacts to a less than significant level.

(e) No Impact: The project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Such an impact will not occur because project actions are designed to restore and enhance biological resources. The Humboldt County Streamside Management Area Ordinance requires a Special Permit for all activities within Streamside Management Areas. This project has been submitted to the Humboldt County Planning Department with a Special Permit application as needed to allow for the project activities within the Streamside Management Areas.

(f) No Impact: The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Such a conflict will not occur because the project restoration actions will not have a significant adverse impact on any species or habitat. Project actions are designed to restore the natural character of the fish and wildlife habitat at the project work sites. The project specifically supports the California Salmon, Steelhead Trout and Anadromous Fisheries Program Act (Fish and Game Code § 6900 et. seq.).

V. Cultural Resources. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Discussion:

(a) Less Than Significant with Mitigation Incorporated: The project will not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5.

Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. Ground disturbance will be required to implement the project at some work sites that have the potential to affect historical resources, this potential impact will be minimized to a less than significant level through implementation of the protective measures presented below and in Appendix E of the BOD Report. As a result, any potentially significant impacts will be avoided or mitigated to below a level of significance.

CR-1: Cultural resources on the site will be protected by the Permittee through implementation of the following protective measures before work can proceed:

a) The site boundary shall be clearly marker during project implementation. Boundary markers such as flagging, stakes, fencing, or other highly visible barrier should be used.

b) The area containing the archaeological site shall be completely excluded from ground disturbing activities. The proposed path of the pond intake pipeline and primary spillway have been rerouted to avoid ground disturbance to the identified sensitive area.

c) Spoils from pond excavation may be placed directly on the existing site surface, however, no grading or scarifying shall be conducted. Heavy equipment shall not enter the site unless atop a sufficient layer of fill, such that the underlying soil is not displaced.

d) All ground-disturbing activities and placement of fill material within the known archaeological site shall be monitored by a professional archaeologist familiar with specific project conditions. A monitoring plan should be developed and used to guide monitoring and discovery protocol.

e) This archaeological site should be continuously monitored after project construction. The landowner or designee should watch for erosion, unauthorized collecting, and other site damages as a result of this site now being identified.

f) In the event additional archaeological material is encountered during project implementation or during future site monitoring efforts, all work shall stop in the area of the find and the discovery protocol initiated as described below in 6).

CR-2: The Permittee shall ensure that the implementation contractor 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.

CR-3: Inadvertent Discovery of Cultural Resources - If cultural resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with Native American heritage (prehistoric sites and select historic period sites), the tribes listed in Section 6.2 and those that the County has on file shall also be contacted immediately to evaluate the discovery and, in consultation with the project proponent, the County, and consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials which could be encountered include obsidian and chert debitage or formal tools, grinding implements, (e.g., pestles, handstones, bowl mortars, slabs), locally darkened midden, deposits of shell, faunal remains, and human burials. Historic archaeological discoveries may include nineteenth century building foundations, structural remains, or concentrations of artifacts made of glass, ceramics, metal or other materials found in buried pits, wells or privies.

(b) Less Than Significant with Mitigation Incorporated: The project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect archaeological resources, this potential impact will be avoided through implementation of the protective measures described above and presented in Appendices E and K of the BOD Report for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site and an archeological monitor will be present during excavation in critical areas. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

(c) Less Than Significant with Mitigation Incorporated: The project is highly unlikely to disturb any human remains, including those interred outside of formal cemeteries. While ground disturbance will be required to implement the project at some work sites that have the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix E of the BOD Report for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site and an archeological monitor will be present during excavation in critical areas.

CR-4: 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 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.

CR-5: 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 property owner shall be notified and the Permittee Project Manager shall contact the county coroner.

d) The Permittee 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 Permittee 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 Permittee 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). Permittee shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC, and MLD.

VI. Energy. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				X
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Discussion:

(a) Less Than Significant: The Project will not result in the wasteful, inefficient, or unnecessary consumption or energy resources during construction or operations. The construction contractors will be using heavy equipment as effectively as possible to reduce fuel and labor costs and generation of greenhouse gasses. In addition, the operation of the Project will utilize a solar array to offset any energy consumption and provide clean energy to the State's electrical grid.

(b) No impact: The Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Project includes the installation of a solar array and micro hydro system that will offset the amount of electricity necessary to operate the facility.

VII. Geology and Soils. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Discussion:

(a) No Impact and Less Than Significant Impact:

(i) There are no earthquake faults on the project site. The nearest fault (Briceland Fault) is located over 4,000 ft to the northeast and is not considered active (CGS 2018). The project site is not located in an Earthquake Fault Zone (CGS 2018). The nearest active fault is the San Andreas fault, which is approximately 9.5 miles southwest of the project site. Therefore, there would be no impact.

(ii) The project would not result in strong seismic ground shaking or involve construction of features that would be at risk of structural failure due to strong seismic ground shaking. Therefore, there would be no impact.

(iii) The project's geotechnical report (Appendix B of the BOD Report) described that the materials beneath the upper terrace (where pond and solar array will be located) have clay skins and iron and manganese accumulations, and is therefore too old and well cemented to be susceptible to liquefaction. The lower terrace (fill placement location) was described as having a low to moderate potential for liquefaction under sustained ground shaking. Within this portion of the project area, excavated fill from the pond site will be placed and recontoured with gentle slopes that do not pose a substantial adverse risk. No human habitation structures are being proposed on these sites. Therefore, there would be a less than significant impact.

(iv) The geotechnical report stated that the project sites are on planar, generally level ground and that mass wasting is unlikely to affect the areas that would be under construction. Additional recent borings indicated that the subsurface bedrock grades toward a shallower depth downslope from the proposed pond, which would add additional stability. In addition, the pond design contains multiple safety features as described in the BOD Report that would further limit the potential for failure. Finally, long-term monitoring of pond berm stability and groundwater elevations adjacent to the pond will be conducted as part of the project's Operations, Maintenance, and Monitoring Plan to observe project function and any issues will be addressed through adaptive management. Through these actions, there would be a less than significant impact.

(b) Less Than Significant impact With Mitigation Incorporated: The project will not result in substantial soil erosion or the loss of topsoil. Such an impact will not occur because the Project is designed to contribute to an overall reduction in gully erosion. Existing roads will be used to access work sites wherever possible. The potential for substantial soil loss associated with pond construction will be avoided through implementation of the design features and mitigation measures presented in Appendix K of the BOD Report.

GEO-1: 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.

GEO-2: Effective erosion control measures shall be in-place at all times during construction. Construction 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.

GEO-3: 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.

GEO-4: 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.

(c) Less Than Significant impact: To minimize the risk of the project interacting with or creating geologic instabilities, geomorphic mapping of the greater project area and a geotechnical investigation of the reservoir location were conducted. Geomorphic mapping identified one dormant, one suspended, and one active landslide area, all of sufficient distance and topographic isolation to pose less than significant hazards to project infrastructure. Grade control structure installation in the east, west, and central tributaries and a bank stabilization structure to be installed in Redwood Creek will serve to enhance geologic stability in the project area. Comprehensive results of the geomorphic and geotechnical investigations as well as Slope Stability Analyses are included in the Basis of Design Report in Attachment A. Additionally, best practices for construction will be maintained, including adherence to detailed compaction specifications as well as construction oversight by senior geotechnical and engineering staff.

(d) Less Than Significant Impact: Expansive soils shrink and swell in response to soil moisture levels and generally have a large clay component. Geomorphic and Geotechnical investigation suggests that there are clay soils onsite that have low to medium plasticity and have a potential for expansion and contraction. This project proposes earthen fills and hydraulic appurtenances that will be designed to withstand soil expansion and contraction. In addition, the engineered fills will have liquid limits of less than 40 and a plasticity index of less than 15. Additionally, the pond design has been modified from a soil liner to a High-density Polyethylene (HDPE) to reduce risks associated with expansive soil. Therefore, the potential for substantial direct or indirect risks to life or property from this project being located on expansive soils is less than significant.

(e) No Impact: The project will not create any sources of wastewater requiring a septic system.

(f) No Impact: There are no unique paleontological resources or sites or unique geologic features in the Project area.

VIII. Greenhouse Gas Emissions. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Discussion:

(a) Less Than Significant Impact: The project will emit greenhouse gases (GHG) primarily through the burning of fuel to operate vehicles and heavy equipment during the construction phase of the project.

Construction and operational emissions were estimated using the CalEEMod (version 2016.3.2). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model was developed in collaboration with the air districts in California. Default data (emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as CEQA documents. Input data and full results from CalEEMod is included in Attachment B of this MND.

The North Coast Unified Air Quality Management District (NCUAQMD) has not identified or recommended any GHG standards or thresholds of significance for the evaluation of construction projects. NCUAQMD has issued a rule stating that stationary sources emitting less than 25,000 tons per year of CO2 equivalent are exempt from compliance determination. Utilizing stationary source compliance rules is not recommended for the evaluation of projects subject to CEQA review and therefore we look to other jurisdictions that have developed thresholds, namely other California air districts, to show the emissions associated with this project in a state-wide context. These thresholds are as follows:

- South Coast Air Quality Management District (SCAQMD): SCAQMD's GHG Working Group has proposed a significance screening level of 3,000 metric tons CO2 equivalent (MT CO2e) per year for residential and commercial projects (SCAQMD 2015).
- Bay Area Air Quality Management District (BAAQMD) has adopted a project-level, operational threshold of significance that requires compliance with a qualified GHG reduction strategy or similar plan, maximum annual emissions of 1,100 MT CO2e per year or less, or achievement of a GHG efficiency rate of no more than 4.6 MT CO2e per

service population per year (BAAQMD 2017). BAAQMD has not adopted a project-level threshold of significance for construction-related GHG emissions.

- Sacramento Metro Air Quality Management District (SMAQMD) has adopted construction and operational GHG thresholds of 1,100 MT CO2e per year for land development and construction projects (SMAQMD 2015).

In the absence of NCUAQMD thresholds, the GHG emissions from this project will be compared to the SMAQMD threshold of 1,100 MT CO2e per year for construction emissions. This is because the SMAQMD has updated their guideline to account for the SB 32 2030 targets for GHG emissions. While utilized for comparative purposes, significance of the project's potential impact is ultimately based on its long-term interaction with the state's GHG reduction goals as stated in California Air Resources Board's (CARB) 2017 Scoping Plan.

When considering the project's long-term interaction with the state's GHG reduction goals, it is critical to consider the increasing contribution that wildfires have on California's greenhouse gas emissions. Between January 1, and September 18, 2020, fires in California burned through 3.4 million acres and generated an estimated 91 million MT CO2e, or ~26.8 MT CO2e per acre burned (Alberts 2020). These emissions are 25% more than California's annual emissions from fossil fuels. Considering that wildfires are becoming a major source of GHG emissions, this project will almost certainly result in a net reduction of GHG emissions over the life of the project due to the project objective of providing long-term water supply for fire suppression.

The project would emit GHG emissions during construction from off-road equipment, worker vehicles, and any hauling that may occur. Construction emissions would be generated from the exhaust of equipment, the exhaust of construction hauling trips, and worker commuter trips. The construction phases include site preparation, site grading, and building construction. Based on CalEEMod results, construction of the project will result in emissions of 713 MT CO2e, which is below the SMAQMD construction threshold of 1,100 MT CO2e per year.

The project would emit GHG emissions during long-term operations from energy required to run the pump and water chiller. Based on CalEEMod results, operations of the project will result in emissions of 4 MT CO2e, which is well below the SMAQMD construction threshold of 1,100 MT CO2e per year. Furthermore, this minor amount of GHG emissions emitted during long-term operations will be offset by renewable energy generation through the solar and micro hydro project components.

In summary, GHGs emitted by this proposed project fall below typical state thresholds for construction projects. Additionally, long term GHG emission from fire suppression benefits are likely to far offset the construction GHG emissions. Based on estimated GHG emission from 2020 wildfires in CA (Alberts 2020), 26.8 MT CO2e per acre burned were produced by the fires. Therefore, if the project prevents approximately 27 acres of wildfire, that will offset the construction related GHG emissions. Based on fire history and climatic trends, it is highly likely that this project will help prevent far greater than 27 acres of wildfire over the 50+ year lifespan of the project. Finally, GHG emissions associated with project operations are offset by renewable energy generation. Based on these factors, the project-generated GHG emissions will have a less than significant impact on the environment.

(b) No impact: The project will not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. GHG emissions in

California are regulated under several state-wide measures, most prominently the California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32, which requires the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions and sets limits on state emissions with a mandate to reduce GHG emissions to 1990 levels by 2020. AB 32 has been followed up by additional legislation and orders mandating efficiency-based thresholds:

- SB 32 requires statewide GHG emissions to 40 percent below 1990 levels by 2030
- B-30-15 provides an interim 2030 goal with the ultimate goal of reducing emissions by 80 percent below 1990 levels by 2050. The B-30-15 interim 2030 emission reduction goal is consistent with SB 32 and represents 'substantial progress' towards the 2050 emissions reduction goal.
- EO S-03-05 directs the state to reduce GHG emissions to 80 percent below 1990 levels by 2050.

Locally, the NCUAQMD maintains air quality conditions in Humboldt County and administers a series of air pollution reduction programs, including open burning permits, grants, permitting of stationary sources, emission inventory and air quality monitoring, and planning and rule development. The NCUAQMD adopted Rule 111 in 2015, which evaluates stationary sources subject to NSR and Title V permitting. Pursuant to Rule 111, stationary sources emitting less than 25,000 tons per year of CO2 equivalent are exempt from compliance determination.

The Humboldt County General Plan commits to concrete actions to further reduce countywide GHG emissions. The County is currently preparing a Climate Action Plan (CAP). Although not yet finalized, the County is suggesting GHG reduction targets of 40 percent below 1990 levels by 2030, and 60 percent below 1990 levels by 2040.

As previously described, this project will generate GHG emissions during the construction phase, but all GHG emissions from long-term operations will be offset by renewable energy generation. Furthermore, the project will provide a dry season water source to combat wildfires in the region which is expected to offset the construction GHG emissions. In summary, this project does not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

IX. Hazards and Hazardous Materials. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?		X		

Discussion:

(a-b) Less Than Significant with Mitigation Incorporated: The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The only hazardous materials that would be used on site are fuels, lube oil, coolant, and hydraulic fluid associated with the routine maintenance and operation of heavy equipment. Any potential significant hazard associated with the accidental release of petroleum and coolant products used with equipment during construction will be minimized through implementation of the mitigation measures below and described in more detail in Appendix K of the BOD Report. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

HAZ-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.

HAZ-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) 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;
b) 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;
c) 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
d) 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.

HAZ-3: All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, the Permittee shall prepare 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.

HAZ-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.

HAZ-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 Permittee shall prepare 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.

HAZ-6: Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the streams 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.

HAZ-7: Petroleum products, fresh cement, and other deleterious materials shall not enter the stream channel.

HAZ-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.

(c) No Impact: The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Such impact is avoided because the project will not create any feature that will emit hazardous substances.

(d) No Impact: The project worksites are not located on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5**.**

(e) No Impact: No project work site is located within an airport land use plan or within two miles of a public airport or public use airport.

(f) No Impact: The project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The project has no effect on access. The project will include road upgrades and installation of firefighting infrastructure including hydrants and a pond suitable for helicopter and ground-based water withdrawals.

(g) Less Than Significant with Mitigation Incorporated: The project will not expose people or structures directly or indirectly to a significant risk of loss, injury, or death involving wild land fires. At work sites requiring the use of heavy equipment, there is a small risk of an accidental spark from equipment igniting a fire. Firefighting equipment (bulldozer, excavator, fire extinguishers, and hand tools) will be on site during construction. The project's pond will be suitable and available for use by helicopter or ground-based firefighting efforts. In addition, fire hydrants will be installed to assist in more localized firefighting efforts. The potential for accidental fire will be reduced to a less than significant level through implementation of the project design and mitigation measures presented in Appendix K of the BOD Report.

HAZ-9: All internal combustion engines shall be fitted with spark arrestors.

HAZ-10: The Permittee 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.

HAZ-11: Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.

HAZ-12: The grantee shall follow any additional rules the landowner has for fire prevention.

X. Hydrology and Water Quality. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would:				
(i) result in substantial erosion or siltation on- or off-site;		X		
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
(iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Discussion:

(a) Less Than Significant with Mitigation Incorporated: The South Fork Eel River watershed has a total maximum daily load (TMDL) established for water temperature and sediment. There is the potential for minor short-term increase in turbidity during installation of instream structures and pond construction. Additionally, there is the potential for release of water from the pond with higher than desirable temperature levels. The goal of the project is to increase water quantity and improve water quality in the dry season by adding cool water to Redwood Creek from the off-stream pond. The project design includes features designed specifically for this objective including an on-demand water chiller to cool water prior to discharge into Redwood Creek. This cool water discharge would reduce water temperatures in Redwood Creek and not be in conflict with the TMDL.

There is also potential for water quality in Redwood Creek downstream from the project to be adversely affected during the wet season if too much water is diverted out of Redwood Creek to fill the pond. However, this impact will be avoided through close collaboration with regulatory agency staff during the design, permitting, implementation, operations and monitoring phases of the project.

The gully stabilization part of the project would significantly reduce sediment delivery from the project area into Redwood Creek, which could benefit instream habitat. This reduction in sediment delivery would not be in conflict with the TMDL or Basin Plan.

The project area currently experiences periodic grazing by cattle, which results in increased nutrient loads into Redwood Creek during runoff periods. The project will be fenced, which will take some of the existing grazing land out of production, thereby reducing nutrient loading into Redwood Creek. No mitigation necessary for this pollutant.

Short-term increases in turbidity associated with the instream structure installation would be controlled by isolating the project area from flowing water, installing BMPs, and revegetating disturbed surfaces. The design features and mitigation measures **BIO 1-6, GEO 1–4** and **HAZ-1– 8** described above and in Appendix K of the BOD Report, as well as **HYD-1** described below will assure that the project actions are in compliance with water quality standards and that impacts on water quality are avoided or mitigated to below a level of significance.

HYD-1: As required by final CDFW and SWB permit conditions, flow and temperature monitoring results, flow augmentation amounts, and diversion operations will be reported to regulatory agency staff on an annual basis. Based on this data, diversion and flow augmentation operations will be adjusted and optimized as appropriate to protect and enhance downstream aquatic habitat to the greatest extent feasible.

(b) Less Than Significant: The project will not substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or impede sustainable groundwater management in the basin This is because the project site is underlain by nearly impervious shale bedrock, with minimal groundwater recharge potential. In addition, the project is located in an area that was determined to be of low priority by the California Department of Water Resources for the development of a sustainable groundwater management plan. However, there is localized shallow groundwater that is perched on top of the shale bedrock. The project is expected to result in changes to the dynamics of this existing shallow groundwater within the project vicinity because construction of the pond will reduce the ground surface area that recharges the shallow groundwater and, by design, drain groundwater in the vicinity of the pond to increase slope stability. Most of the water stored in the shallow groundwater aquifer drains within a few weeks following significant precipitation based on groundwater modeling results as described in the BOD Report in attachment A. Therefore, there are no groundwater wells or other existing land uses that rely on this shallow aquifer. There is a small amount of moisture that persists during the dry season along the bedrock-soil interface that provides soil moisture to support riparian vegetation within some locations in the project vicinity. The project may result in some minor changes to this dynamic. The project proposes construction of grade control structures in the three tributary drainages adjacent to the project site, which will reduce incision and improve shallow groundwater retention within those portions of the project. It is also important to consider the objective of this project is to provide a significant benefit to 5.5 miles of riparian habitat along Redwood Creek. Furthermore, By incorporating these design features and considering the overall positive effects of the project on a watershed scale, the project impacts on local groundwater will be less than significant.

(c) the project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river.

> **(i) Less Than Significant with Mitigation:** The project would not result in substantial erosion or siltation on- or off-site. Such an impact will not occur because several of the project actions are designed to decrease overall erosion and sediment delivery. The instream boulder and large wood placement in Redwood Creek and rock armor grade control structures in the smaller tributary drainages will alter drainage patterns by slowing incision and erosion. Instream structures proposed in Redwood Creek will produce a local redistribution of bed load, facilitating the deposition of spawning

gravel in riffles and create localized scour to maintain pools for juvenile fish habitat. This local redistribution of bed load will not produce a net increase of erosion. Further, the erosion control mitigation measures (**GEO 1–4**) described in Appendix K of the BOD Report will assure that all project actions, including construction activities, are in compliance with water quality standards, which would reduce impacts to a less than significant level.

(ii) Less Than Significant: The project will not substantially alter the existing drainage pattern of the work sites, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The project will capture wet-season runoff in the pond, which would reduce flooding potential. The construction of the proposed pond and associated infrastructure could result in an increased flood risk if the pond suffers a catastrophic failure. However, the project is designed to minimize such a failure by being located on a stable terrace feature, having an armored overflow and downslope berm to direct water away from residences, reduced berm height, and double sealed containment (i.e. gravel layer over pond liner, and clay seal). These design features would reduce the potential for failure and associated downstream flood risk to a less than significant level. In addition, the risk of flooding would be further reduced by other design measures described in Appendix K of the BOD Report.

(iii) Less Than Significant:: The project will not create or contribute runoff water that would exceed the capacity of existing or planned storm-water drainage systems, or provide substantial additional sources of polluted runoff. Overall, the project aims to reduce storm water runoff through capture of wet-season runoff and release it during the dry season to improve instream habitat. In addition, the project will improve the road system and associated drainage facilities to increase its capacity to drain a 100-year runoff event. Finally, the project will install grade control structure in three tributaries, which will increase the retention of groundwater, reduce erosion, and reduce delivery of sediment to Redwood Creek. Therefore, this impact would be less than significant.

(iv) Less Than Significant: The project will not place structures within a 100-year flood hazard area, which would significantly impede or redirect flood flows. The pond is outside of the 100-year floodplain. Instream structures are built to change the direction and velocity of stream flow. However, these structures are designed to affect conditions in the low flow channel and will not impede flood flows. Note that the micro-hydro turbine is installed in the control center building and generates energy from the piped flow release from the reservoir only, so it will not impede or be affected by flood flows.

(d) Less Than Significant: The project is not located in tsunami, or seiche zones. With the exception of the pump intake and instream habitat structures, all of the project components (pond, solar array, control center building, access roads, fencing, etc.) are well outside of the 100-year flood zone. As such, the risk of release of pollutants due to inundation of the project is less than significant.

(e) Less Than significant: The project is in a basin that was determined to be of low priority by the California Department of Water Resources for the development of a sustainable groundwater management plan. Therefore, there is no sustainable groundwater management plan for this basin. The project will not conflict with or obstruct the implementation of a water quality control plan. In fact, the project is in the South Fork Eel River, which is one of five priority watersheds

selected for flow enhancement projects in California by the SWRCB and CDFW as part of the California Water Action Plan effort (SWRCB 2019). However, there is a potential for warm water to be discharged from the pond during extreme hot and dry periods. The project design includes the use of an industrial water chiller that would cool water prior to delivery to Redwood Creek. Therefore, the impact would be less than significant.

XI. Land Use and Planning. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

Discussion:

(a) No Impact: The project will not physically divide an established community. This impact will not occur because the project is being entirely conducted on a single property.

(b) No Impact: The activities that compose this project do not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Such an impact will not occur because the project's activities are designed to be consistent with the County's General Plan Water Resources element goals and policies WR-G2, WR-G9, WR-P23, WR-P25, and WR-IMP19.

WR-G2 - Water Resource Habitat. River and stream habitat supporting the recovery and continued viability of wild, native salmonid and other abundant coldwater fish populations supporting a thriving commercial, sport, and tribal fishery.

Relevant project actions: Deliver cool water to Redwood Creek during the summer low flow period, which will improve dry season survivability of juvenile anadromous salmonids.

WR-G9 - Restored Water Quality and Watersheds. All water bodies de-listed and watersheds restored, providing high quality habitat and a full range of beneficial uses and ecosystem services.

Relevant project actions: Redwood Creek currently experiences low flows and warm water temperatures during the summer and early fall months. Cool water flow augmentation from the Project will improve instream habitat quality and anadromous salmonid rearing habitat.

WR-P23 - Watershed and Community Based Efforts. Support the efforts of local community watershed groups to protect, restore, and monitor water resources and work with local groups to ensure decisions and programs take into account local priorities and needs.

Relevant project actions: The Project is a collaboration of the Marshall Ranch, Salmonid Restoration Federation, and state and federal agencies with the goal of restoring cool water flow to Redwood Creek during the summer dry season.

WR-P25 - State and Federal Watershed Initiatives. Support implementation of state and federal watershed initiatives such as the Total Maximum Daily Loads (TMDLs), the North Coast Regional Water Quality Control Board's (NCRWQCB) Watershed Management Initiative, the National Marine Fisheries Services and Department of Fish and Game coho recovery plans and the California Non-Point Source Program Plan.

Relevant project actions: The Project addresses the goals of the California Water Action Plan (SWRCB, 2019), Goal B of the WCB strategic plan (WCB, 2014), Goal 2 of the State Wildlife Action

Plan (CDFW, 2015), and host of NOAA Fisheries' recovery actions for coho salmon in the South Fork Eel River. See below for additional detail regarding these goals.

WR-IMP19 - Coordinate and Support Watershed Efforts. Seek funding and work with land and water management agencies, community-based watershed restoration groups, and private property owners to implement programs for maintaining and improving watershed conditions that contribute to improved water quality and supply.

Relevant project actions: The Project is a collaboration of the Marshall Ranch, Salmonid Restoration Federation, and state and federal agencies. Funding for the Project was supplied by funded by the WCB Proposition 1 Streamflow Enhancement Program.

As described on page 9 (Project Goals and Objectives), this project was specifically designed to directly addresses the goals of the California Water Action Plan (SWRCB, 2019) and will ensure the restoration of critically important habitat. The project also addresses Goal B of the WCB strategic plan (WCB, 2014). The Project also aligns with Goal 2 of the State Wildlife Action Plan (CDFW, 2015) – Enhance Ecosystem Conditions, and Goal 3 – Enhance Ecosystem Functions and Processes: Maintain and improve ecological conditions vital for sustaining ecosystems in California. Most specifically, the project improves the hydrologic regime and increases water quantity and availability vital for sustaining ecosystems.

XII. Mineral Resources. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Discussion:

(a) No Impact: The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Such an impact will not occur because no valuable mineral resources are known to exist at the project site.

(b) No Impact: The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Such an impact will not occur because no mineral resource recovery sites occur at the project work sites.

XIII. Noise. Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive ground-borne vibration or ground-borne noise levels?				X
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Discussion:

(a) Less Than Significant with Mitigation Incorporated: The project will not result in significant exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies. There will be a temporary increase in noise levels at those work sites requiring the use of heavy equipment. It is expected that the highest noise levels would be about 88 dB at 50 ft and would come from bulldozers. However, noise attenuation is expected to be about 7.5 dB per doubling of distance from the source. The nearest residence is approximately 150 ft from the edge of the work area and over 300 ft from the pond excavation site where most of the noise would be produced. Therefore, it is estimated that the noise level received by the nearby residence from work (road and berm construction) at the edge of the work area would be about 77 dB. The noise level at the nearby residence from work conducted at the pond site would be about 70 dB.

The Project will occur on property with a General Plan zoning classification of RA. Fish and wildlife management are conditionally permitted uses on this property. The Project is consistent with General Plan's Noise Element's Goal and Policy N-S7, which states that for the RA designation, the maximum permissible noise level within the zone is 75 dB between the hours of 6 am to 10 pm. The noise expected to be produced by the Project is less than the maximum allowable. In addition, N-S7 also states that an exception (#4) applies when heavy equipment and power tools are used during construction of permitted structures when conforming to the terms of the approved permit. The project will include several mitigation measures to reduce noise impacts to a less than significant level. These mitigation measures include:

NOISE-1: To reduce the possibility of the construction noise and vibrations becoming an annoyance to sensitive receptors near the Project, exterior construction activity shall be confined to the weekday hours of 7:00 am to 7:00 pm or until sunset, whichever is later, and weekend hours of 8:00 am to 6:00 pm or until sunset, whichever is later. No heavy equipment related construction activities shall be allowed on Sundays or holidays.

NOISE-2: The Permittee shall notify sensitive receptors (all property owners within 350 feet) of potential impacts from noise and vibration prior to initiating each construction phase. The notice shall describe construction activities and anticipated noise and/or vibrations from these activities, and the duration and operational hours of construction activities. The notice will also include a contact that sensitive receptors may call to report noise or vibration concerns. The

notice will include a request that property owners share the notice with any employee or tenants working within 350 feet of the project site.

NOISE-3: Construction equipment shall be properly maintained and equipped with noise control devices, such as mufflers and shrouds, in accordance with manufacturers' specifications.

Following construction, the project will utilize passive structures that will not generate excessive noise. A pump however, will be used during the wet season to divert water from Redwood Creek to help fill the pond. The pump's sound level is less than 70 dBA. However, the pump will be submerged in water, installed in a cistern, below the redwood creek channel elevation, and will only be running when Redwood Creek has significant flow, so it is unlikely that the pump will be audible to any neighbor, the nearest of which is ~400' away. Additionally, a water chiller may also be operated several days each year. The water chiller has a sound level of 56.2 dBA at 32.8 ft distance from the machine. However, the chiller would be housed in the control center building which will be designed to muffle the sound. The nearest residences are ~500' away from the control center building, so sound levels at the residences are expected to be <40 dBA. While these project components will create an intermittent, long-term increase in ambient noise levels, they are powered by electric motors, will be housed in a control center building/cistern designed to muffle sound, and will likely only be audible to those within the immediate proximity. Based on noise monitoring during initial operation, adaptive management measures will be implemented as described in the Mitigation Measure **Noise-4** below. As such, this operational noise will constitute a less than significant impact.

NOISE-4: During final design, construction, and initial operations, adaptive management actions will be conducted including fine tuning of feature layout and installation of sound barriers to reduce noise level from the pump and chiller to the greatest extent practical.

(b) No Impact: The project will not result in exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. Such an impact will not occur because only minor amounts of ground-borne vibration or noise will be generated short-term at those work sites requiring the use of heavy equipment.

(c) No Impact: None of the project work sites are located within two miles of a private airstrip, public airport, or public use airport.

XIV. Population and Housing. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Discussion:

(a) No Impact: The project will not induce substantial population growth in an area, either directly or indirectly. Such an impact will not occur because the project will not construct any new homes, businesses, roads, or other human infrastructure.

(b) No Impact: The project will not displace any existing people or housing and will not necessitate the construction of replacement housing elsewhere.

XV. Public Services. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?				X
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Discussion:

(a-e) No Impact: The project will not have any significant environmental impacts associated with new or physically altered governmental facilities. Issuance of restoration grants to government agencies could, in some cases, lead to minor increases in staffing to complete projects. Such increases will not lead to any significant adverse impacts, because the increases are short term, and no significant construction will be required to accommodate additional staff.

XVI. Recreation.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion:

(a) No Impact: The project would not increase the use of existing neighborhood and regional parks, or other recreational facilities. Such an impact will not occur because the project actions will restore anadromous fish habitat and do not significantly alter human use or facilities at existing parks or recreational facilities. Overall, the project is expected to increase recreation opportunities by assisting in restoring populations of anadromous fish.

(b) No Impact: The project does not include recreational facilities and does not require the construction or expansion of recreational facilities.

XVII. Tribal Cultural Resources. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resource Code section 5020.1(k), or				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X

Discussion:

(a) No impact: There are no tribal cultural resources on the project site that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resource Code 5020.1(k).
(b) No impact: There are no resources determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

XVIII. Transportation. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities?				X
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

Discussion:

(a) No Impact: The project will not conflict with any applicable plans, ordinances or policies that address the circulation systems, transit, roadway, bicycle, and pedestrian facilities in or around the project area.

(b) Less than significant: Construction of the proposed project would not directly impact any roadways. During the construction phase, workers and equipment/materials delivery will utilize Briceland/Thorn Road, Redwood Drive, and US 101. However, these trips would be small compared to existing traffic and would not lead to a significant increase in roadway congestion. Long term operations and maintenance requirements are minimal so any long-term traffic volume increase resulting from the project would be negligible. Therefore, the project will not conflict, either individually or cumulatively, with CEQA Guidelines section 15064.3, subdivision (b).

(c) No Impact: The project will upgrade the existing roadway inside the project area to support heavy equipment traffic and drain 100-year flood return interval events at crossings.

(d) No Impact: The project will not result in inadequate emergency access. The proposed improvements to the roadway will allow improved access by emergency fire vehicles that would need access to the pond and associated fire hydrants.

XIV. Utilities and Service Systems. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new expanded water or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?		X		
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

Discussion:

(a) Less Than Significant with Mitigation Incorporated: : The project does not involve relocation or construction of new expanded water or wastewater treatment or stormwater drainage, natural gas, or telecommunications facilities or expansion of existing facilities. The project will construct a facility to store water during the wet season and release water during the dry season to enhance aquatic habitat, so the project is not expected to cause significant negative environmental impacts. The project also includes construction and operation of small scale solar and micro hydro energy generation which will be tied into the grid. New underground lines will connect the current PG&E service to the solar panels, pump and control center building. Impacts that could occur during installation will be primarily associated with ground disturbance, which will be localized at the trenches where utilities will be buried. Impacts will be reduced to a less than significant level by the installation of erosion control BMPs and revegetation and other mitigation measures (**GEO 1–4**) detailed in the Geology section above

(b) Less Than Significant: The project relies on wet season diversion from Redwood Creek and rainfall to fill the pond. The diversion will require a new Appropriative Water Right, the application for which has been filed with the State Water Resource Control Board (SWRCB). A preliminary Water Availability Analyses has been prepared for the project which shows that sufficient water supplies are available during the wet season to fill the pond. The project does not include any future development that would require any future water supply.

(c) No Impact: The project will not produce wastewater or be served by a wastewater facility.

(d) No Impact: The project will not generate a significant volume of solid waste requiring disposal in a landfill. Any waste generated will be minimal and only occur during construction. No waste will be produced during operations.

(e) No Impact: The project will not violate any federal, state, or local statutes or regulations related to solid waste.

XX. Wildfire: if located in or near state responsibility areas of lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

(a) No impact: The project will not substantially impair an adopted emergency response plan or emergency evacuation plan. The project includes road upgrades, which will improve emergency response and evacuation on the project property. In addition, the proposed pond and hydrants will provide water necessary for emergency fire responses.

(b) No impact: The project does not propose to construct structures that would be used for human habitation. The project reduces wildfire risk by installing a pond and hydrants that could be used to fight wildfires. The upgrading and construction of access roads will also reduce wildfire risk by providing passive fire breaks should a wildfire initiate.

(c) Less than significant: The project is located in a meadow area and will include the installation and upgrading of access roads, hydrants, pond, and powerlines. The access roads can serve as fire breaks, which would lessen the risk of fire spread over the current condition. The pond and hydrants can be called upon to supply water in the event of a wildfire, which is a significant improvement over the current condition. All new onsite power supply lines will be installed via underground burial and would not increase the risk of wildfire.

(d) Less than significant: The project is located on a flat terrace adjacent to Redwood Creek that is very stable (see geotechnical report) and not prone to landslides. Any potential landslides in the project area would be diverted away from the nearby residence by the proposed berm along the northern property extent.

XXI. Mandatory Findings of Significance.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).				X
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion:

(a) Less Than Significant with Mitigation Incorporated: The project does have the potential to degrade the quality of the environment. However, the potential is reduced to a less than significant level by design and through implementing the mitigation measures described above and in Appendix K of the BOD Report. The project shall be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals, and cultural resources during construction. The project activities are designed to improve and restore stream habitat, thereby providing long-term benefits to both anadromous salmonids and other fish and wildlife.

(b) No Impact: The project does not have adverse impacts that are individually limited, but cumulatively considerable. Cumulative adverse impacts will not occur because potential adverse impacts of the project are only minor and temporary in nature and will be mitigated to the fullest extent possible. It is the goal of the project that the beneficial effects of habitat enhancement actions will be cumulative over time and contribute to the recovery of listed anadromous salmonids.

(c) Less Than Significant with Mitigation Incorporated: The project does have the potential to cause substantial adverse effects on human beings. However, the potential is reduced to a less than significant level by design and through implementing the mitigation measures described above and in Appendix K of the BOD Report. Furthermore, measures implemented as part of this project will contribute to significant fire safety improvements for the local community through the construction of the pond and hydrant.

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Attachment A

Basis of Design Report

(Stillwater Sciences, September 2020)

Attachment B

Project Emissions Background Documentation

(CalEEMod)