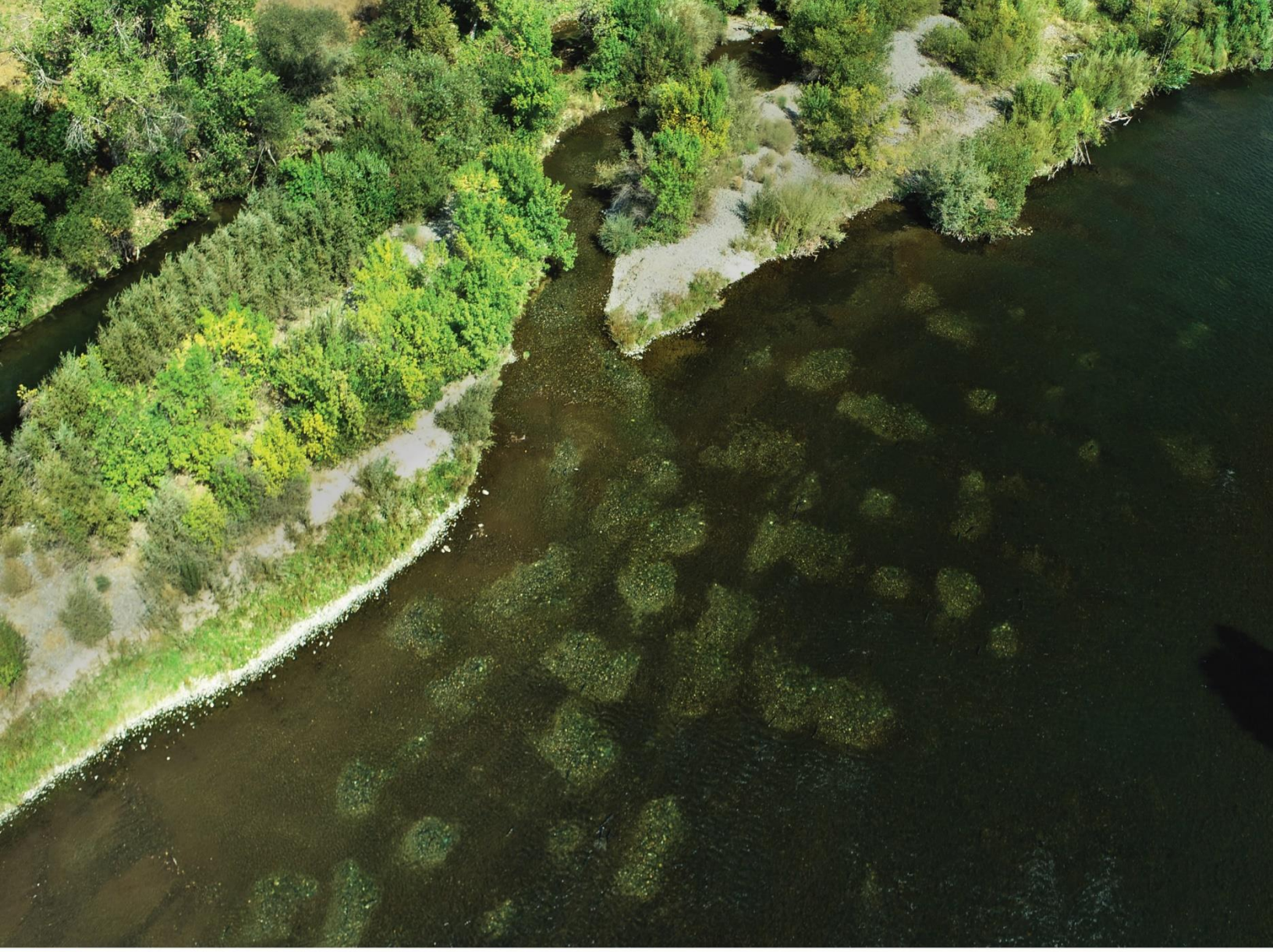


Feather River Salmonid Habitat Improvement Project

Draft Initial Study/
Proposed Mitigated
Negative Declaration

California Department of
Water Resources
2440 Main Street
Red Bluff, CA 96080

OCTOBER 2022

Feather River Salmonid Habitat Improvement Project

Proposed Mitigated Negative Declaration

October 2022

PROJECT TITLE: Feather River Salmonid Habitat Improvement Project (proposed project)

LEAD AGENCY: California Department of Water Resources (DWR)

PROJECT LOCATION: The proposed project is located within and adjacent to the Feather River in the city of Oroville, Butte County, California. Located approximately 5 miles downstream of Oroville Dam near the Feather River Fish Hatchery, and a quarter mile downstream of the Feather River Fish Barrier Dam, the project is situated just upstream of State Route 70 and downstream of Table Mountain Boulevard, between river mile (RM) 65 and 67. The proposed project is located within Township 19 North, Range 4 East, Sections 7 and 8, within Oroville U.S. Geological Survey 7.5-minute quadrangle in Butte County, near 39°30'53.25"N, 121°33'44.96"W (see Figure 1).

PROJECT DESCRIPTION: The proposed project consists of the following key elements: (1) addition or replacement of approximately 16,000 cubic yards (CY) of spawning gravel to multiple locations within the river to improve spawning conditions in these areas, including building in-river access routes to reach these areas; (2) excavation of accumulated streambed material from the entrance of Moe's Side Channel to improve hydraulic capacity and redistribute material at the head of Upper Auditorium Riffle to improve spawning conditions; (3) excavation of accumulated streambed material from the entrance and exit of the Bedrock Park side channel to increase flows and improve potential habitat accessibility; and (4) minor spoiling of excavated material in an area adjacent to the exit of the Bedrock Park Side Channel to avoid off-site haul of materials through a public park (see Figure 2). Environmental commitments incorporated into the proposed project's design include preparing a construction management plan; conducting worker environmental awareness training; implementing DWR's greenhouse gas emissions reduction plan; and preparing a stormwater pollution prevention plan, spill prevention and control plan, and a fire protection and prevention plan.

FINDINGS: An initial study/proposed mitigated negative declaration (IS/MND) has been prepared to assess the proposed project's potential effects on the physical environment and the significance of those effects. Based on the analysis conducted in the IS, DWR has determined that the proposed project would not have any significant adverse effects on the environment because environmental commitments and mitigation measures would be implemented to reduce impacts to a less-than-significant level.

This conclusion is supported by the following findings:

1. The proposed project would not impact agriculture and forestry resources, energy, land use and planning, mineral resources, population and housing, public services, transportation, utilities and service systems, or wildfire.
2. The proposed project would have a less-than-significant impact on aesthetics, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and recreation.
3. The proposed project would have a less-than-significant impact on air quality, biological resources, cultural resources, and tribal cultural resources with the adoption and implementation of mitigation measures proposed in the IS.
4. The proposed project would not substantially degrade the quality of the environment, significantly reduce the habitat for fish and wildlife species, result in fish or wildlife populations below a self-sustaining level, reduce the number or restrict the range of a special-status species, or eliminate important examples of California history or prehistory.
5. The proposed project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
6. The proposed project would not have possible environmental effects that are individually limited but cumulatively considerable and contribute to a significant cumulative impact. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
7. The environmental effects of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly.
8. The proposed project incorporates numerous protective environmental commitments in its project description, as well as all mitigation measures listed below and described in the IS.

Figure 1 Map of the Proposed Project Location and Vicinity

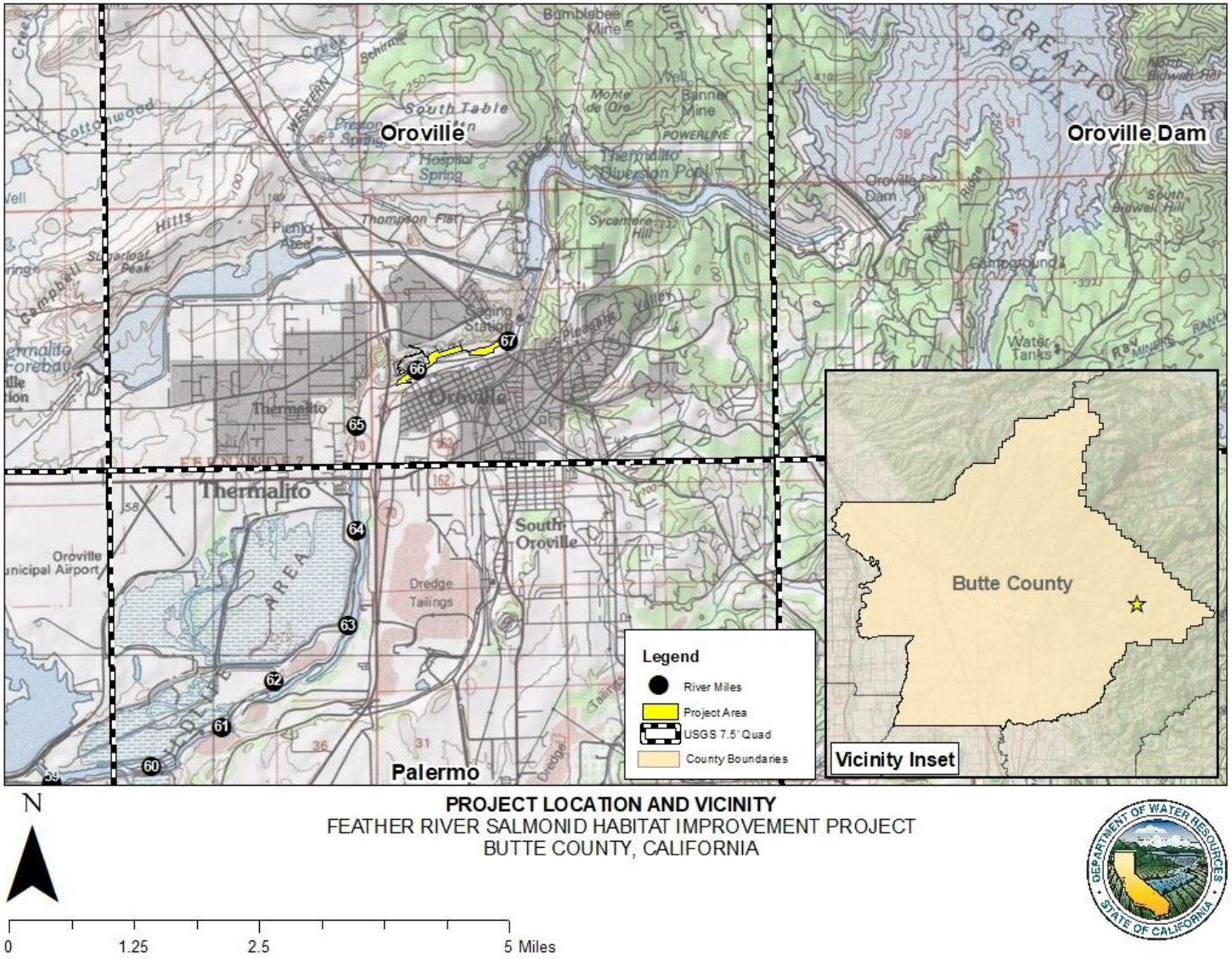
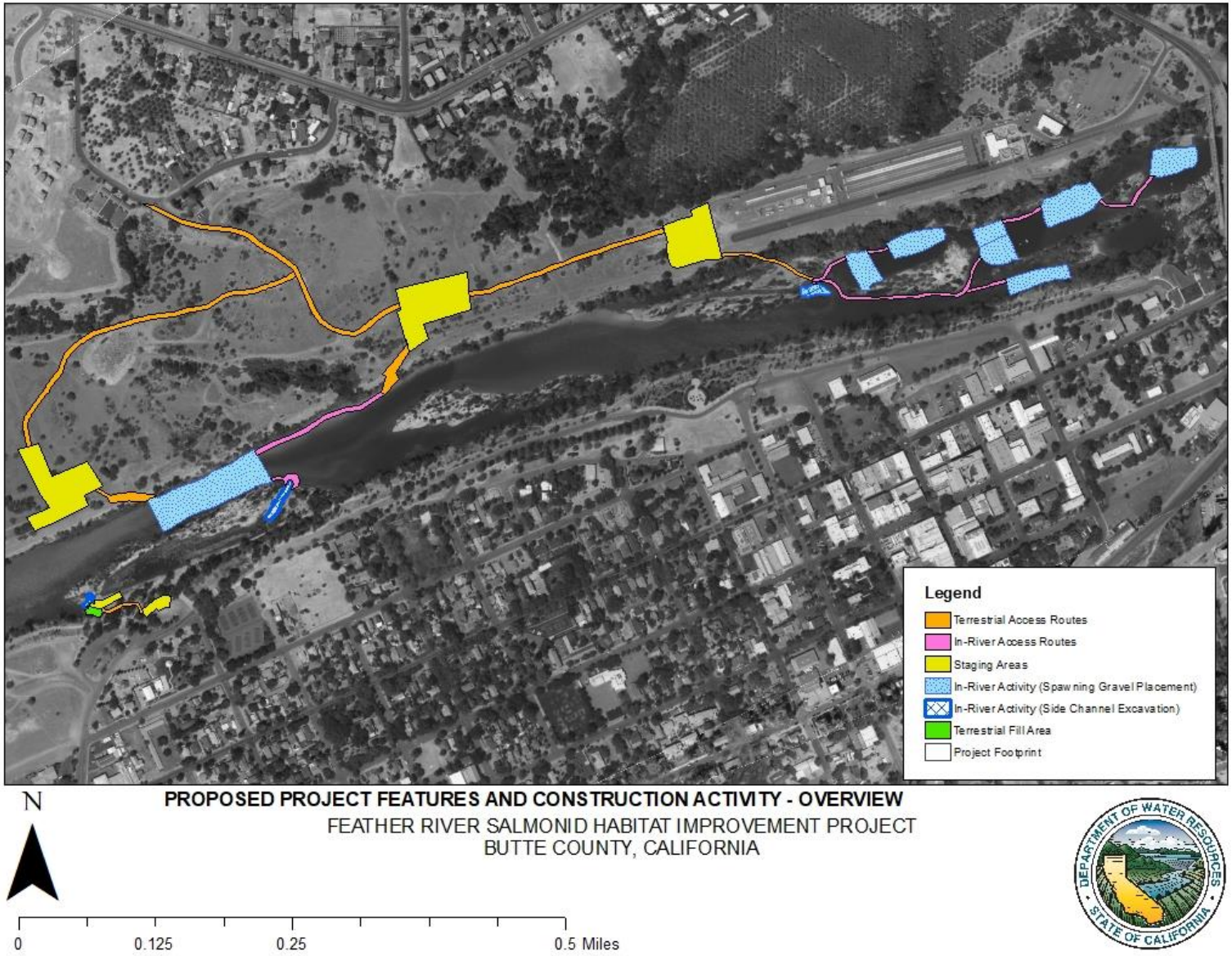


Figure 2 Proposed Project Features and Construction Activity – Overview



Mitigation Measures

The following mitigation measures would be implemented by the lead agency to avoid, minimize, and mitigate environmental impacts resulting from implementation of the proposed project. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to a less-than-significant level.

Air Quality

Mitigation Measure AQ-1: Implement Butte County Air Quality Management District (BCAQMD) Best Practices to Minimize Air Quality Impacts

Tier 4 equipment, including off-highway haul trucks and other equipment entering the river, will be used to the extent feasible. In addition, the following is a list of measures that may be required by the BCAQMD throughout the duration of the construction activities:

- All on- and off-road diesel equipment shall not idle for more than five minutes.
- Signs shall be posted in the designated queuing areas or job sites to remind drivers and operators of the five-minute idling limit.
- Idling, staging, and queuing of diesel equipment within 1,000 feet of sensitive receptors is prohibited.
- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment must be checked by a certified mechanic and determined to be running in proper condition before the start of work.
- Diesel particulate filters must be installed or other California Air Resources Board (CARB)-verified diesel emission control strategies must be implemented
- To the extent feasible, truck trips shall be scheduled during non-peak hours to reduce peak hour emissions.
- Where possible, reduce the amount of the disturbed area.
- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. An adequate water supply

source must be identified. Increased watering frequency would be required when wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.

- All dirt stockpile areas should be sprayed with water daily as needed, covered, or a DWR-approved alternative method will be used.
- Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.
- Exposed ground areas that will be reworked at dates greater than one month after initial grading should be sown with a fast-germinating, non-invasive grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by DWR.
- All roadways, driveways, sidewalks, and the like, to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with local regulations.
- Where vehicles enter and exit unpaved roads onto streets wheel washers will be installed or trucks and equipment will be washed off before leaving the site. Streets will be swept at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.
- Appropriate signage will be posted in prominent locations that are visible to the public. Signage will include the telephone numbers of the contractor and DWR to direct any questions or concerns about dust generated from the project.

Wildlife Resources

Fisheries

Mitigation Measure BIO-1: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species

To minimize injury or mortality to adult or juvenile fish species, the contractor shall implement the following measures:

- In-water construction activities will be restricted to occur between July 1 and August 31.
- Before gravel is placed in a stream margin for the first time, DWR staff will beach seine the margins, and relocate any juveniles downstream of the project boundary.
- Operation of equipment and placement of materials within the channel shall be conducted slowly and deliberately to alert and allow adult and juvenile fish to move away from the work area. When first entering or crossing the channel each day, a construction monitor shall walk ahead of the equipment working to alert any fish and allow them to move from the work area.
- If water is drafted from the Feather River for construction purposes, water pump intakes shall be screened in compliance with California Department of Fish and Wildlife (CDFW) and National Marine Fisheries Service salmonid-screening specifications.

Mitigation Measure BIO-11: Implement Measures to Minimize Potential to Interfere with Movement of Migratory Fish and Wildlife Species

- All vehicle stream crossings constructed in the Feather River will be wet or under water and will be constructed in a way to avoid being a barrier to upstream or downstream movement of aquatic life.
- If turbidity curtains are used, they will be installed in a way to not inhibit fish migration within or through the project area and may not extend across more than 75 percent of the channel width at any location.

Birds

Mitigation Measure BIO-2: Implement an Avoidance Work Window and Conduct Preconstruction Nesting Bird Surveys

- Native vegetation disturbance and removal will be minimized to the greatest extent feasible.
- The nesting season for most bird species is typically from February 1 through August 31. If vegetation removal is scheduled during the nesting season, a qualified biologist shall survey the vegetation proposed for removal to confirm no active nests are present within the vegetation proposed for removal.
- Within seven days prior to construction activities scheduled between February 1 and August 31, a survey for active bird nests shall be conducted. The survey shall include an appropriate buffer around proposed project activities that accounts for visual and auditory disturbance of the project activities and monitoring during project activities. If an active nest is not identified, no further action is needed.

Mitigation Measure BIO-3: Establish Nest Protection Buffers for Active Bird Nests

- If an active nest is found, disturbance and destruction of the nest shall be avoided by implementing avoidance measures, such as delaying work until nesting is complete, establishing species appropriate buffers (minimum starting setback of 100 feet for passerines, 500 feet for raptors, and 450 feet federal Endangered Species Act-listed species), and providing a designated biologist access to nest monitoring during project activities. If an active nest of a California Endangered Species Act-listed species is observed, all work within 500 feet of the nest shall be suspended and CDFW consulted. If the nest cannot be avoided, consultation with CDFW regarding appropriate action would occur. If a lapse in project-related work of seven days or longer occurs, another focused survey and further regulatory consultation may be required before project work can be reinitiated.
- To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the qualified biologist that high-visibility material would not attract

predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.

Mitigation Measure BIO-4: Monitor Active Nests within Nest Protection Buffer

- If project activities must occur within established buffer zones, a qualified biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities.
- If birds are showing signs of distress within the established buffer(s) during work activities, work activities shall be modified, or the buffer(s) shall be expanded, to prevent birds from abandoning their nest.
- At any time, the biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to nest abandonment. Work shall not resume until corrective measures have been taken, or it is determined that continued activity would not adversely affect nest success.

Invertebrates

Mitigation Measure AQ-1: Implement BCAQMD Best Practices to Minimize Air Quality Impacts

Refer to the "Air Quality" section.

Mitigation Measure BIO-1 would also be protective of Valley Elderberry Longhorn Beetle (VELB).

Mitigation Measure BIO-5: Implement Protection Measures for the Valley Elderberry Longhorn Beetle

To protect the VELB, the contractor shall implement the following measures:

- As much as feasible, all activities adjacent to elderberry shrubs will be conducted outside the flight season of the VELB (March through July).

- All suitable elderberry shrubs (shrubs with stem 1 inch or greater in diameter at ground level) will be avoided.
- Elderberry shrubs within and immediately adjacent to the project area will be temporarily fenced, as needed, with guidance from the designated biologist and designated as biologically sensitive areas.
- A qualified biologist will monitor the work area to assure that all avoidance and minimization measures are implemented.
- Herbicides will not be used within the dripline of the elderberry shrub. Insecticides will not be used within 98 feet of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.
- Mechanical weed removal within the dripline of the elderberry shrub will be limited to the season when adults are not active (August through February) and will avoid damaging the elderberry.

Mammals

Mitigation Measure BIO-6: If Removal of Trees that provide Suitable Roosting Habitat for Bats is Necessary, Conduct Preconstruction Surveys for Roosting Bats

- A qualified biologist shall conduct preconstruction surveys of all trees proposed for removal if they provide suitable roosting habitat for the roosting bats. Surveys shall be conducted for the presence of individuals and maternity roosts within 24 hours prior to the start of construction activities.
- If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.
- If a tree is identified as providing potential day roosting habitat for bats, either the tree shall be avoided or CDFW shall be consulted to determine effective exclusion or protection measures to be implemented prior to tree removal.

Reptiles

Mitigation Measure BIO-1: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species

Refer to the "Fisheries Resources" section.

Mitigation Measure BIO-1 would also be protective of western pond turtles.

***Mitigation Measure BIO-7:* Conduct pre-construction surveys for western pond turtle in upland habitat**

A qualified biologist shall conduct pre-construction visual surveys for western pond turtle in suitable upland habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of two weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work. If western pond turtles or evidence of western pond turtle nesting activity are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until it is determined that the western pond turtle or active nest will not be harmed or protective measures are implemented. Protective measures may include moving the western pond turtle to a suitable location outside of the project area or establishing a nest buffer, respectively, in consultation with CDFW.

Botanical Resources

Mitigation Measure BIO-8: Conduct Focused Surveys for Special-status Plants and Avoid Impacts, where Feasible

To avoid adverse effects from construction activities on special-status plants, the following measures shall be implemented before the start of ground-disturbing activities:

- Conduct preconstruction special-status plant surveys during the blooming periods. A qualified botanist will conduct surveys for special-status plant species with potential to occur in appropriate habitat within the construction footprint. Surveys will follow the most current applicable guidelines established by CDFW and will be conducted at the appropriate time of year when the target species is clearly identifiable. If no special-status plants are found during focused surveys, no further action would be required.

- If special-status plants are found, the special-status plant and occupied habitat in the project area will be marked for avoidance during construction activities. Marking will include a minimum habitat buffer for each occurrence of 25 feet. The construction contractor will avoid these areas where feasible.

Mitigation Measure BIO-9: If Avoidance of Special-Status Plant Species is Infeasible, Develop and Implement a Compensatory Mitigation Plan

- If habitat occupied by special-status plants cannot be avoided during construction, an appropriate and feasible mitigation plan to compensate for direct loss of special-status plants will be developed and provided to CDFW for approval. The plan will detail appropriate compensatory measures determined through consultation with CDFW. Methods may include salvaging and transplanting individual plants, collecting the seeds of affected plants, or collecting and translocating seed- and rhizome-containing mud. Compensation also may include preserving in perpetuity other known populations of this species in the project vicinity at ratios determined in consultation with CDFW. The mitigation plan will be developed in consultation with and approved by CDFW before construction activities begin in areas containing special-status plant species.

Mitigation Measure BIO-10: Prevent the Introduction of Plant Pathogens and Invasive Plant Species

The contractor shall implement the following BMPs, to the extent feasible, to prevent the introduction of invasive plant species:

- All heavy equipment shall be thoroughly cleaned prior to mobilization on site to remove any soil, weed seeds, and plant parts to reduce the importation and spread of plant pathogens or invasive exotic plant species. Only certified weed-free straw shall be used for erosion control or other purposes to reduce the importation and spread of invasive exotic plant species.
- All revegetation materials (e.g., mulches, seed mixtures) shall be certified weed-free and come from locally adapted native plant materials to the extent practicable.

Cultural Resources

Mitigation Measure CUL-1: Designate Environmentally Sensitive Areas for Avoidance

- To protect the confidentiality of resource locations and ensure avoidance during project implementation, a qualified archaeologist will designate environmentally sensitive areas (ESAs) that appropriately encompass each known resource boundary. Each ESA will be delineated on project plans for avoidance.
- As appropriate, a qualified archaeologist will physically demarcate ESAs within the project area to ensure equipment operators, construction personnel, and DWR inspectors can visually identify them for avoidance. This boundary marking may include placing flagging, cones, fencing, or other physical barriers around ESA boundaries.
- During the worker environmental awareness training, a qualified archaeologist will ensure that the contractor and DWR inspectors are aware of ESA boundaries and avoidance requirements.

Mitigation Measure CUL-2: Provide Worker Awareness and Response Training for Undiscovered Historical, Archaeological, and Tribal Cultural Resources

- During the worker environmental awareness training, a qualified archaeologist shall provide training to the construction contractor and DWR inspector regarding the potential for cultural and tribal cultural resources that could be encountered during construction and ground disturbing activities, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource.
- If any evidence of prehistoric, historic, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, etc.) is observed, all work within 100 feet of the find shall cease immediately. An archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeology shall be consulted to assess the significance of the cultural find and recommend appropriate measures for the treatment of the resource. Potential treatment may

include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery.

- If a previously undiscovered resource may be of Native American origin, DWR shall consult with the culturally affiliated tribes to whom the resource could have importance. For tribal cultural resources, the identification and implementation of avoidance or minimization measures would be conducted in consultation with the culturally affiliated tribes.

Mitigation Measure CUL-3: Avoidance of Potential Impacts to Undiscovered Burials

- If human remains are discovered during any project activities, all ground disturbing activities within 100 feet of the remains shall be halted immediately and a qualified archaeologist shall inspect the location. DWR shall notify the Butte County coroner immediately, who will contact the NAHC, in accordance with Health and Safety Code section 7050.5(b). Protocols and requirements outlined in Health and Safety Code sections 7050.5(b) and 7050.5(c) as well as Public Resources Code section 5097.98 will be followed.

Tribal Cultural Resources

Mitigation Measure TRI-1: Restrictions on Construction during Tribal Salmon Spearing Permit Period and Associated Ceremonies

- Unless otherwise agreed to by the Maidu tribes, DWR shall halt all construction activities during the period that Maidu tribes have been permitted by CDFW to conduct traditional salmon spearing, which occurs during the last two weeks of September and overlaps with the Feather River Salmon Festival.

Mitigation Measure CUL-1: Designate Environmentally Sensitive Areas for Avoidance

Refer to the "Cultural Resources" section.

Mitigation Measure CUL-2: Provide Worker Awareness and Response Training for Undiscovered Historical, Archaeological, and Tribal Cultural Resources

Refer to the "Cultural Resources" section.

Mitigation Measure CUL-3: Avoidance of Potential Impacts to Undiscovered Burials

Refer to the "Cultural Resources" section.

Adoption of Mitigation Negative Declaration

DWR, as lead agency, was responsible for preparation of this proposed MND and the incorporated IS. I believe this document meets the requirements of CEQA and provides an accurate description of the Feather River Salmonid Habitat Improvement Project (proposed project), and that DWR has the means and commitment to implement the mitigation measures to assure that the proposed project would not cause any significant impacts on the environment. In accordance with CEQA Guidelines Section 21082.1, DWR staff, including myself, have independently reviewed and analyzed the IS and proposed MND for the proposed project and find that the IS and proposed MND reflect the independent judgment of DWR staff.

Furthermore, as the DWR decision-making body for this project, I have reviewed and considered the information contained in the Final MND, which includes the IS, proposed MND, and comments received during the public review process, prior to approval of the project.

Therefore, on the basis of the whole record before DWR, I find that there is no substantial evidence that the project will have a significant effect on the environment. For these reasons, I adopt this MND pursuant to CEQA Guidelines Section 15074.

_____ _____

Teresa Connor Date

Northern Region Office Manager

California Department of Water Resources

(To be signed on completion of the public review process and consideration of all public comments and the whole of the administrative record

Feather River Salmonid Habitat Improvement Project

Draft Initial Study

October 2022

Feather River Salmonid Habitat Improvement Project
Draft Initial Study

October 2022

Project Information

Project Title	Feather River Salmonid Habitat Improvement Project
Lead Agency Name and Address	California Department of Water Resources 2440 Main Street Red Bluff, California 96080
Contact Person and Phone Number	Harmony Gugino California Department of Water Resources Northern Region Office Harmony.Gugino@water.ca.gov (530) 529-7393
Project Sponsor's Name	California Department of Water Resources
Project Location	Within and adjacent to the Feather River below Oroville Dam near the Feather River Fish Hatchery, Township 19 North, Range 4 East, Sections 7 and 8, within Oroville United State Geological Survey 7.5-minute quadrangle in Butte County, near 39°30'53.25"N, 121°33'44.96"W.
General Plan Designation	Low-Density Residential, Park
Zoning	Rural Residential 20,000-square-foot, Public/Quasi-Public Facilities
Project Description	Supplement the coarse sediment supply below Oroville Dam by adding clean gravel at multiple existing spawning sites, as well as improve potential habitat accessibility within two existing side channels.
Surrounding Land Uses and Setting	Feather River Fish Hatchery, Vacant, Commercial, Residential, and Parks/Open Space

Project Information

Other Public Agencies Whose Approval may be Required	The proposed project may require permits or approvals from the following: • Central Valley Flood Protection Board (Flood Encroachment Permit) • California Department of Fish and Wildlife (Streambed Alteration Agreement) • Regional Water Quality Control Board (Section 401 Clean Water Act Water Quality Certification) • State Water Resources Control Board (Construction General Permit) • State Lands Commission (Approval Letter) • State Historic Preservation Office (Section 106 Concurrence) • National Marine Fisheries Service (Restoration Programmatic Biological Opinion concurrence) • U.S. Army Corps of Engineers (Section 404 Clean Water Act Permit) • U.S. Fish and Wildlife Service (Section 7 Endangered Species Act)
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code, Section 21080.3.1?	No requests for consultation pursuant to Public Resources Code, Section 21080.3.1, were received by the CEQA lead agency.

Contents

Tables

Figures

Appendices

Appendix A
Checklist and Assessment Form for Consistency and Compliance with GHG Emissions Reduction Plan

Appendix B
Road Construction Emissions Model Data Entry Worksheet
(available upon request)

Acronyms and Abbreviations

BCAQMD	Butte County Air Quality Management District
BMPs	best management practices
B.P.	before present
ca.	circa
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CH_4	methane
CHRIS	California Historical Resources Information System
CNPS	California Native Plant Society
CO_2	carbon dioxide
CRHR	California Register of Historical Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
CY	cubic yards
DPS	distinct population segment
DWR	California Department of Water Resources
EFH	essential fish habitat
ESA	environmentally sensitive area
ESU	Evolutionarily Significant Unit
FERC	Federal Energy Regulatory Commission
FFRHD	forks of the Feather River Historic District
FRFH	Feather River Fish Hatchery

GGERP	Greenhouse Gas Emissions Reduction Plan
GHG	greenhouse gas
lbs/day	pounds per day
LFC	Low Flow Channel
Mechoopda	Mechoopda Indian Tribe of Chico Rancheria
$mtCO_2e$	metric tons of carbon dioxide equivalent
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
NO_x	nitrogen oxides
N_20	nitrous oxide
Oroville Facilities Project 2100	Oroville Facilities
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
RM	river mile
ROG	reactive organic gases
SR	State Route
SWPPP	stormwater pollution prevention plan
TCP	traditional cultural property
TCR	tribal cultural resource
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VELB	valley elderberry longhorn beetle
Washoe	Washoe Tribe of Nevada and California

Chapter 1: Introduction

For maintenance and enhancement of suitable and accessible salmonid spawning habitat conditions in the Feather River, the California Department of Water Resources (DWR) proposes to supplement coarse sediment supply below Oroville Dam by adding clean gravel at multiple existing spawning habitat sites, as well as improve potential habitat accessibility within two existing side channels.

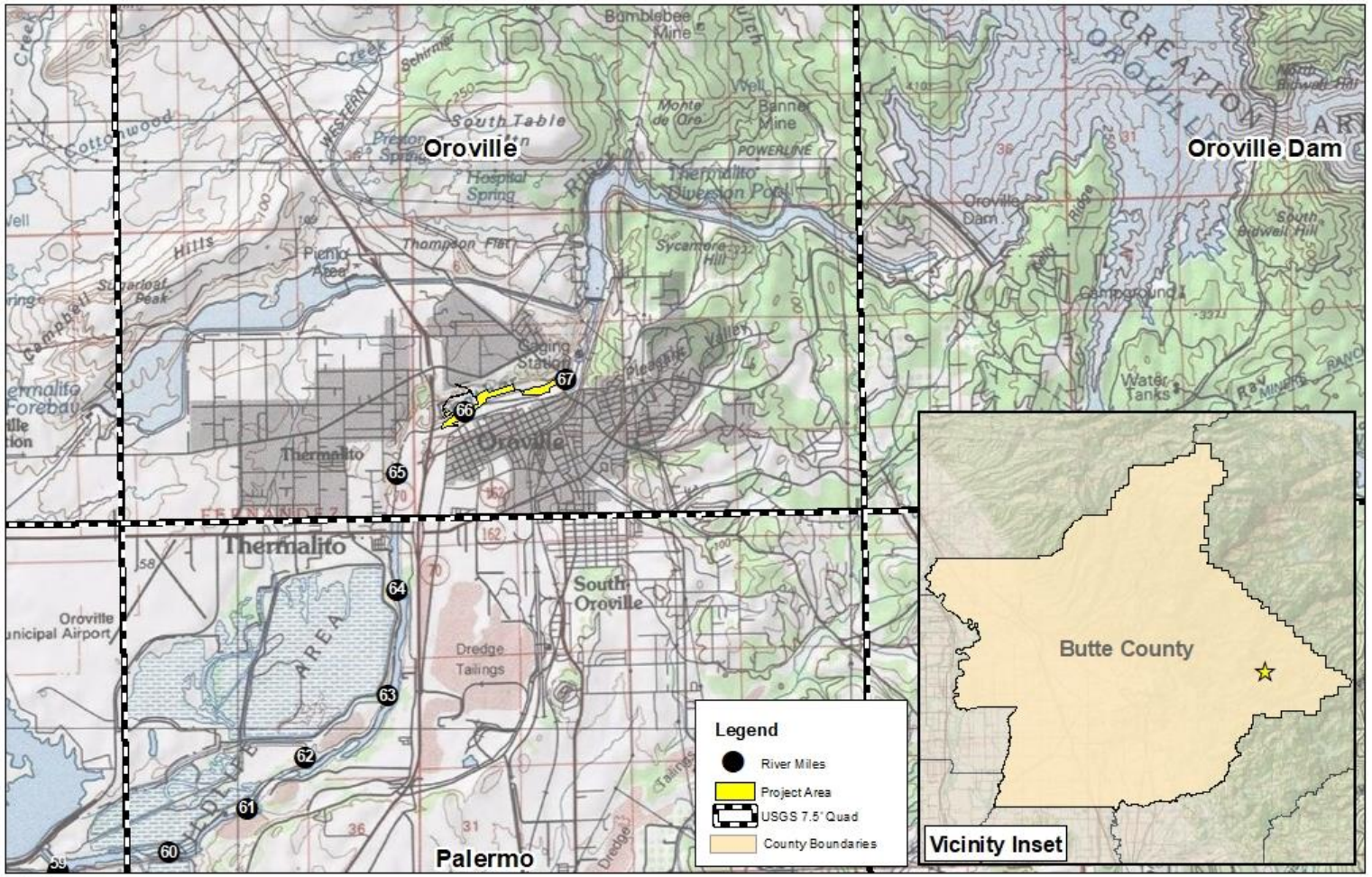
DWR proposes to implement this activity (herein referred to as "proposed project") with State and federal grant funds from California Proposition 68 and the Central Valley Project Improvement Act, respectively.

The proposed project is separate and distinct from the pending Federal Energy Regulatory Commission (FERC) relicensing project for the Oroville Facilities; would not be early implementation of pending FERC relicensing measure, agreement, or mandate; and would not conflict with any of the FERC Relicensing Settlement Agreement articles.

1.1 Project Location

The proposed project is located within and adjacent to the Feather River in the city of Oroville, Butte County. Located approximately 5 miles downstream of Oroville Dam near the Feather River Fish Hatchery (FRFH), and 0.25 mile downstream of the Feather River Fish Barrier Dam, the proposed project is situated just upstream of State Route (SR) 70 and downstream of Table Mountain Boulevard, between river miles (RM) 65 and 67 (see Figure 1).

Figure 1 Map of the Proposed Project Location and Vicinity



1.2 Location Background

DWR operates and maintains the Oroville Facilities Project 2100 (Oroville Facilities) under a FERC license. The FERC license expired in January 2007. DWR applied for a new license under the Alternative Licensing Process and is currently operating under an annual license until the new license is issued.

The Oroville Facilities were developed as part of the State Water Project and are operated to support multiple benefits including the storage and delivery of water, flood management, power generation, water quality improvement in the Sacramento-San Joaquin Delta, and enhancement of recreation, fish, and wildlife.

1.2.1 Oroville Facilities

The Oroville Facilities consist of Oroville Dam and Reservoir, Hyatt Pumping-Generating Plant, Thermalito Diversion Dam and Powerplant, Thermalito Power Canal, Thermalito Forebay, Fish Barrier Dam, FRFH, Thermalito Pumping-Generating Plant, Thermalito Afterbay, Oroville Wildlife Area, and numerous recreational facilities (see Figure 2).

The main channel of the Lower Feather River between the Fish Barrier Dam and the Thermalito Afterbay River Outlet is referred to as the Low Flow Channel (LFC). Water released into the LFC is presently maintained at minimum flow requirements of 600 cfs or greater year around. Flows may be temporarily increased for a variety of reasons such as for fishery benefits, water temperature management, flood management, or other operational needs.

Water released from Oroville Dam flows into the Thermalito Diversion Pool, which is impounded by the Thermalito Diversion Dam approximately 4 miles downstream. At the Thermalito Diversion Dam, these releases into the LFC are made in three ways:

1. Water flows into the FRFH raw water line intake just upstream of the Thermalito Diversion Dam at approximately 100 cubic feet per second (cfs), then flows through the fish facility and is discharged into the LFC of the Feather River at RM 67.
2. Water flows through the Thermalito Diversion Dam Powerplant or through radial gates at the Thermalito Diversion Dam into the Fish

Barrier Pool, then travels a short distance through the pool, and passes over the Fish Barrier Dam into the Feather River LFC at RM 68.

3. Water is diverted through the Thermalito Diversion Dam radial gates to the Thermalito Power Canal, which leads to the Thermalito Forebay, where it then passes through the Thermalito Powerplant to the Tailrace Canal and is delivered to the Thermalito Afterbay. From the Afterbay, water is distributed to several local water districts or discharged back into the Feather River at the Thermalito Afterbay River Outlet at RM 59.

1.2.2 Facilities Impacts

The Oroville Facilities block migratory fish species access to spawning and rearing habitat upstream of Lake Oroville and have eliminated coarse sediment transport from the upper watershed. The Fish Barrier Dam, located one-quarter mile upstream of the project area, blocks upstream migration of anadromous salmonids and concentrates the intensity of habitat utilization to unnaturally high levels in the LFC. This increased concentration of intensity causes increased competition for spawning habitat and contributes to increased adult pre-spawning mortality levels (California Department of Water Resources 2008). Therefore, spawning habitat downstream from the Fish Barrier Dam is a critical resource for maintaining naturally spawning fish populations in the Feather River.

Migratory fish species include the Central Valley Evolutionarily Significant Unit (ESU) spring-run Chinook salmon (*Oncorhynchus tshawytscha* [spring-run Chinook salmon]), Central Valley fall/late-fall run ESU Chinook salmon (*O. tshawytscha* [Central Valley fall/late-fall run Chinook salmon]), and California Central Valley distinct population segment (DPS) steelhead (*O. mykiss* [Central Valley steelhead]). Female salmonids lay their eggs in nests called "redds" using coarse sediment, particularly clean rounded gravel.

Except for high-volume releases associated with high-flow events, the relatively static flow regime in the LFC has reduced fluvial geomorphic processes in this reach of the river and resulted in channel stabilization and reduced gravel and sediment recruitment.

The location of existing salmonid habitat features within the same river reach as the project area are shown in Figure 3. High-flow releases have resulted in an accumulation of gravel and cobble materials within the side channel

located at Bedrock Park. At the side channel entrance, accumulated gravel and cobble are impeding surface flow connectivity with the mainstem river (see Photo 1). At the Bedrock Park Side Channel exit, sand, gravel, and cobble have accumulated upstream and downstream of an existing non-functional flashboard dam (see Photo 2). Similarly, the hydraulic capacity of Moe's Side Channel has been affected by accumulation of gravel at the entrance, which has migrated downstream from prior habitat enhancement efforts (see Photo 3).

Figure 2 Map of the Oroville Facilities

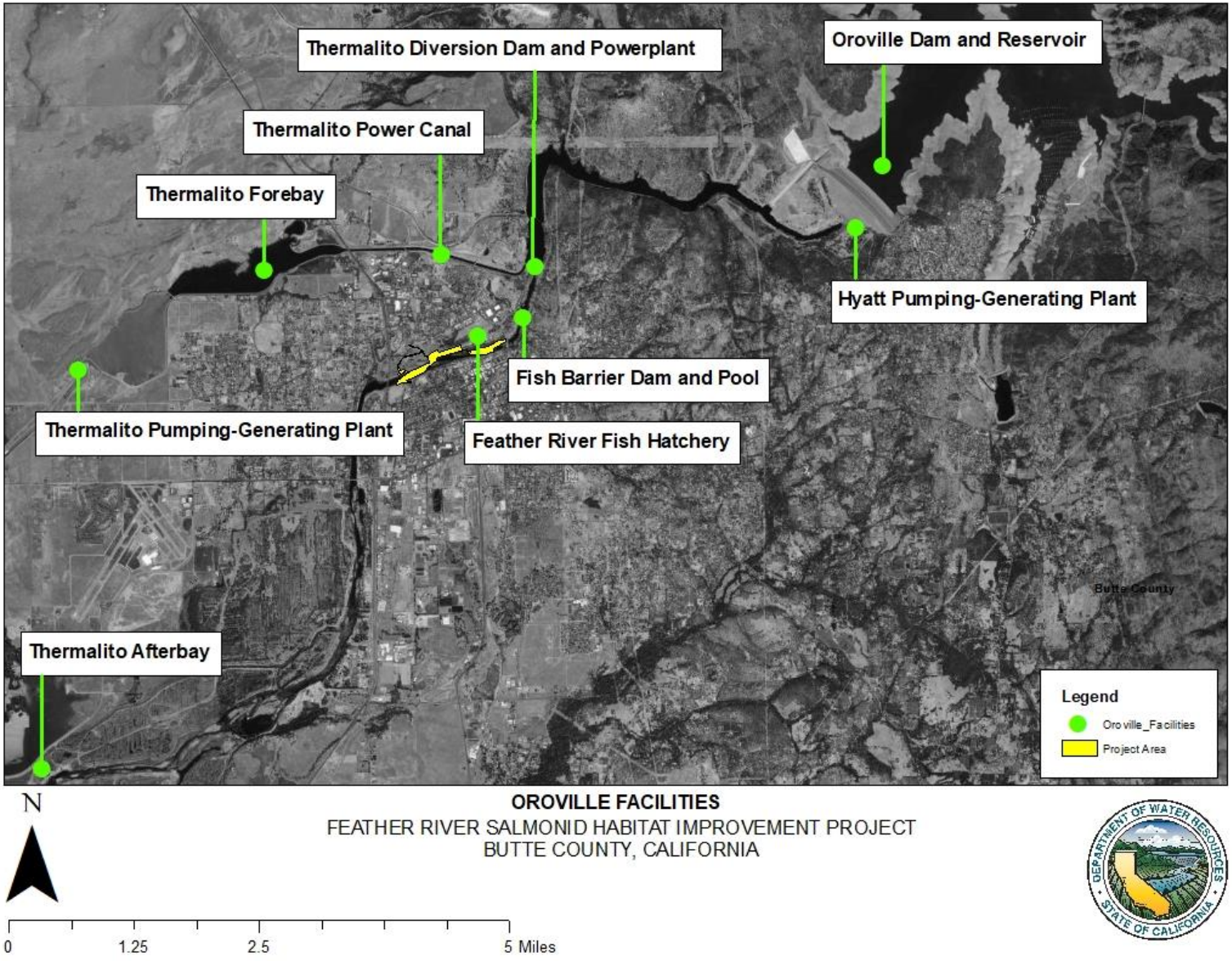


Figure 3 Map of the Existing Salmonid Habitat Features in the Proposed Project Area

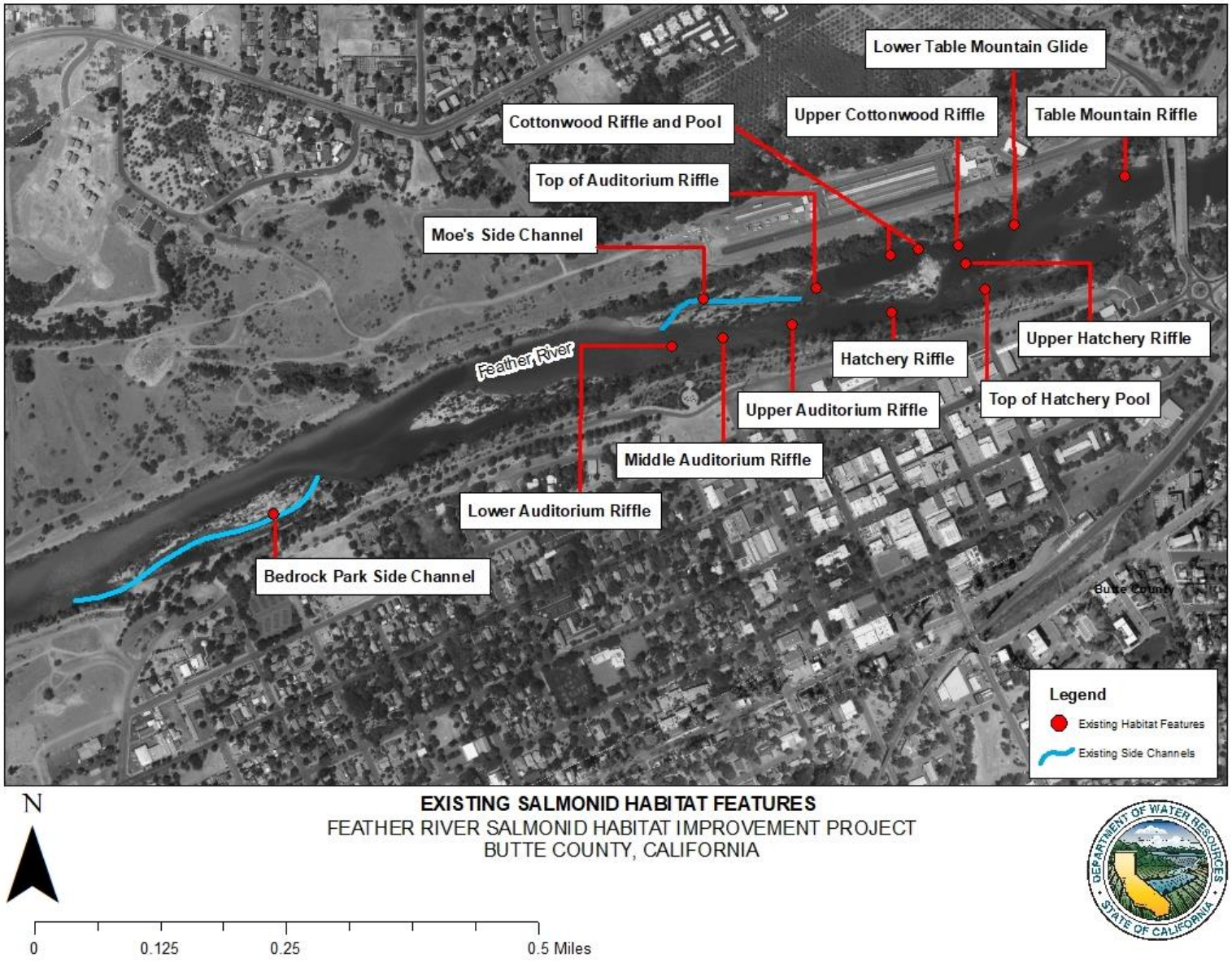


Photo 1 Accumulated gravel and cobble at the Bedrock Park Side Channel entrance, looking northeast (September 2, 2021)

Photo 2 Accumulated sand, gravel, and cobble at the Bedrock Park Side Channel exit, looking northwest (March 25, 2022)

Photo 3 Accumulated gravel at the Moe's Side Channel entrance, looking northeast (July 27, 2022)

1.2.3 Prior Habitat Enhancement Efforts

The proposed project is located within designated critical habitat for Central Valley spring-run Chinook salmon and Central Valley steelhead and provides essential fish habitat (EFH) for Chinook salmon. This includes both naturally occurring and enhanced salmonid habitat features between RM 65 and RM 67 (see Figure 3).

In 2014 and 2017, salmonid habitat enhancement efforts were implemented within and adjacent to the proposed project. The Lower Feather River Gravel Supplementation and Improvement Project, completed in 2014, resulted in the placement of approximately 8,300 cubic yards (CY) of spawning gravel across 2.4 acres for adult Chinook salmon and Central Valley steelhead. The 2014 project was completed to meet requirements of the FERC Relicensing Settlement Agreement under Article B105, which is one of several measures

agreed upon to be conducted independently of the FERC relicensing project for the Oroville Facilities. In 2017, after heavy winter rain events mobilized the existing spawning gravel, DWR placed an additional 5,000 CY of spawning gravel gradated for salmonids and excavated accumulated streambed material from Moe's Side Channel.

1.3 Project Purpose and Objectives

The purpose of the proposed project is to replenish, restore, and enhance suitable salmonid spawning habitat on existing riffles in the LFC, where most Feather River spawning activity occurs. The proposed project may also provide additional salmonid habitat access by improving the connectivity of two existing side channels within the mainstem river. The objectives of the proposed project are to:

- Add spawning gravel to Table Mountain Riffle, Lower Table Mountain glide, Top of Auditorium Riffle, and in the mainstem Feather River (adjacent to Bedrock Park) to improve spawning conditions in these areas.
- Add spawning gravel to the Top of Hatchery pool to minimize depth and increase flows for improved spawning conditions.
- Replace spawning gravel at Upper Cottonwood Riffle and add spawning gravel along the full length of Upper Hatchery Riffle to improve spawning conditions.
- Add spawning gravel to the long pool between Cottonwood Riffle and Top of Auditorium Riffle to improve the substrate and increase velocities for additional spawning opportunities in this area.
- Excavate accumulated streambed material from the entrance of Moe's Side Channel to improve hydraulic capacity and redistribute material within the Top of Auditorium Riffle.
- Excavate accumulated streambed material from the entrance and exit of the Bedrock Park Side Channel to increase flows through the channel and improve potential habitat accessibility.

1.4 Need for the Proposed Project

Both Central Valley spring-run Chinook salmon and Central Valley steelhead are federally listed as threatened fish species under the federal Endangered Species Act. Central Valley spring-run Chinook salmon are also listed as threatened fish species under the California Endangered Species Act. Central

Valley fall-/late-fall run Chinook salmon are a federal and a State species of concern.

The Oroville Facilities have eliminated coarse sediment transport from the upper watershed needed to support spawning habitat for these fish species in the LFC. Existing salmonid habitat features, including "Hatchery Riffle" and "Upper Hatchery Riffle," have proven highly successful for spawning habitat in the past, but much of the previously supplemented gravel has mobilized downstream.

In addition, material accumulation at both side channels' entrances impairs access to potential juvenile salmonid rearing habitat and impairs access to spawning habitat at Moe's Side Channel.

For these reasons, ongoing supplemental import and distribution of course material is necessary to support critical habitat and EFH for listed salmonids within the Feather River. Excavation of the accumulated material is needed to increase access to, and improve the condition of, potential habitat within the side channels.

1.5 Purpose and Intended Use of this Initial Study

The purpose of this initial study is to describe the potential environmental impacts of the proposed project and to describe measures that would avoid or mitigate potentially significant environmental impacts. Under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), an initial study helps a lead agency determine whether a project would have a significant effect on the environment and, in turn, determine whether a negative declaration, mitigated negative declaration, or environmental impact report should be prepared.

1.6 Federal, State, Regional, and Local Requirements

Several federal, State, and regional agencies, as well as decision-making bodies, have jurisdiction over resources that may be affected by the proposed project, or have other permitting or regulatory authority over certain aspects of the proposed project. These agencies and decision-makers will review and consider the information provided in this environmental document during their decision-making process. Table 1 describes key consultation requirements that are anticipated for the proposed project.

Table 1 Anticipated Project Permits and Approvals

Approving Agency	Permit/Approval	Required For
Federal Agencies		
U.S. Army Corps of Engineers	Federal Clean Water Act, Section 404 Permit	Discharges of dredged or fill material into waters of the United States.
National Marine Fisheries Service	Federal Endangered Species Act, Section 7 Consultation	Potential impacts on federally listed anadromous fish species.
	Magnuson-Stevens Fishery Conservation and Management Act Compliance	Potential impacts to essential fish habitat of species covered by the Act.
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Section 7 Consultation	Potential impacts on federally listed species or designated critical habitat.
	Federal Fish and Wildlife Coordination Act Report	Federal actions that may control or modify a natural stream or other body of water.
	Migratory Bird Treaty Act Compliance	Prohibits take of protected migratory bird species.
State Agencies		
Central Valley Flood Protection Board	Encroachment permit in compliance with California Code of Regulations, Title 23, Division 1, Chapter 1, Article 1, Section 2.	Activities that may affect a regulated floodway.
California State Lands Commission	Approval Letter under Memorandum of Understanding (December 14, 2021, File Reference # I2897)	Activities on lands underlying navigable waters.
California Department of Fish and Wildlife	California Endangered Species Act Consultation (Section 2081)	Incidental take or otherwise lawful activities that will take State-listed species.

Approving Agency	Permit/Approval	Required For
	Lake and Streambed Alteration Agreement (Section 1602 of the Fish and Game Code)	Any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.
California Office of Historic Preservation	National Historic Preservation Act, Section 106 Authorization	Any actions that may have an adverse impact on historical or archaeological resources.
California State Water Resources Control Board	Clean Water Act, Section 402 Construction General Permit	Discharges of stormwater from construction sites that disturb 1 acre or more of land.
Central Valley Regional Water Quality Control Board	Clean Water Act, Section 401 Certification	Discharges of dredged or fill material into waters of the United States.

Chapter 2: Project Description

The proposed project features and construction activities, construction schedule and sequencing, maintenance and monitoring activities, and environmental commitments are described below.

2.1 Project Features and Construction Activities

The following section is a description of the proposed project features and construction activities within the approximately 15.8-acre project footprint (see Figures 4 through 7). The proposed project features and their approximate sizes are listed below and described in detail in Sections 2.1.1 through 2.1.4:

- Terrestrial Access Routes (approximately 3.0 acres)
- In-River Access Routes (approximately 1.1 acres)
- Staging Areas (approximately 5.1 acres)
- In-River Activity – Spawning Gravel Placement (approximately 6.2 acres)
- In-River Activity – Side Channel Excavation (approximately 0.3 acres)
- Terrestrial Fill (approximately 0.07 acres)

Figure 4 Proposed Project Features and Construction Activity – Overview

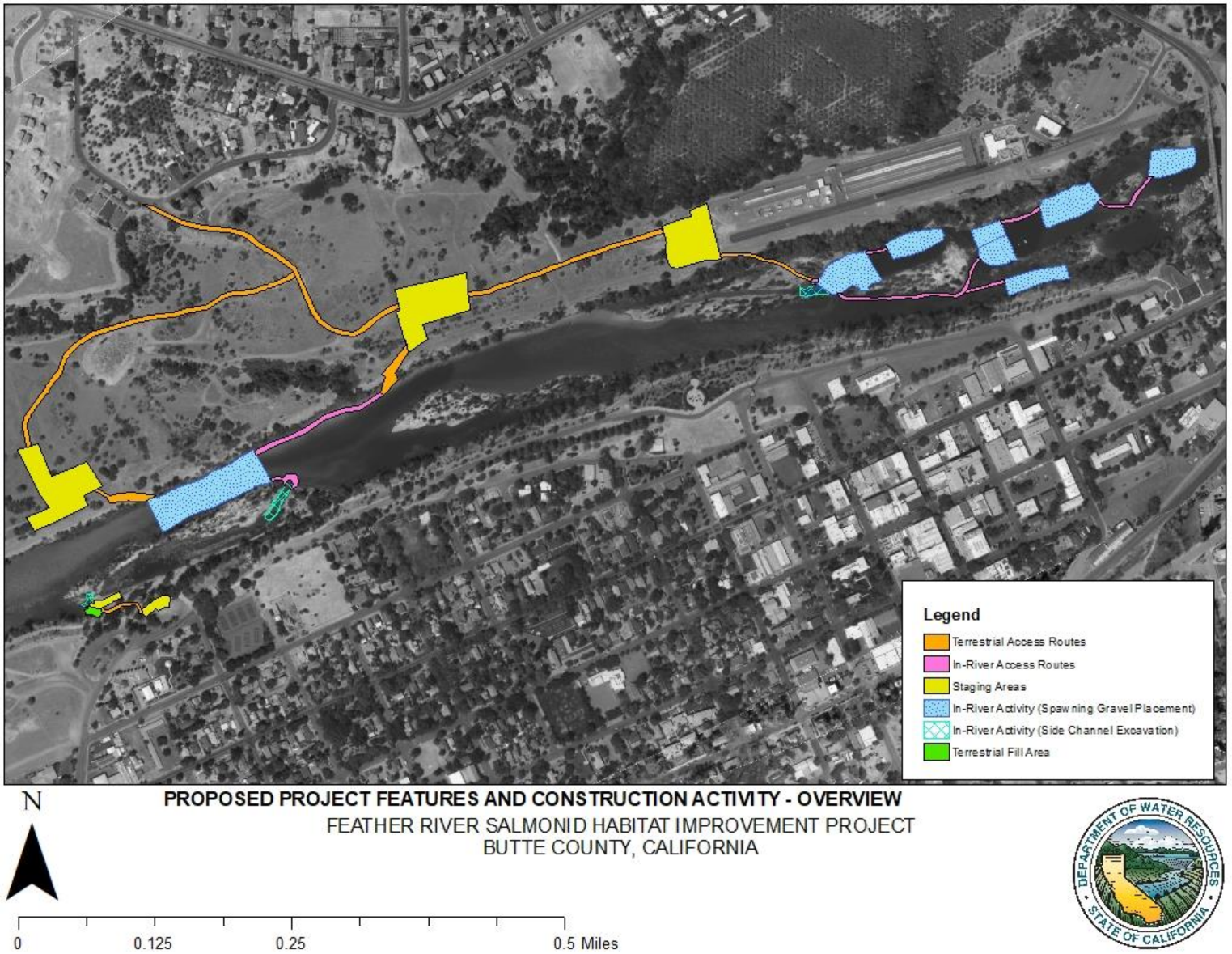


Figure 5 Proposed Project Features and Construction Activity – Access Routes

N

PROPOSED PROJECT FEATURES AND CONSTRUCTION ACTIVITY - ACCESS ROUTES
FEATHER RIVER SALMONID HABITAT IMPROVEMENT PROJECT
BUTTE COUNTY, CALIFORNIA

0 0.125 0.25 0.5 Miles

Figure 6 Proposed Project Features and Construction Activity – Staging Areas

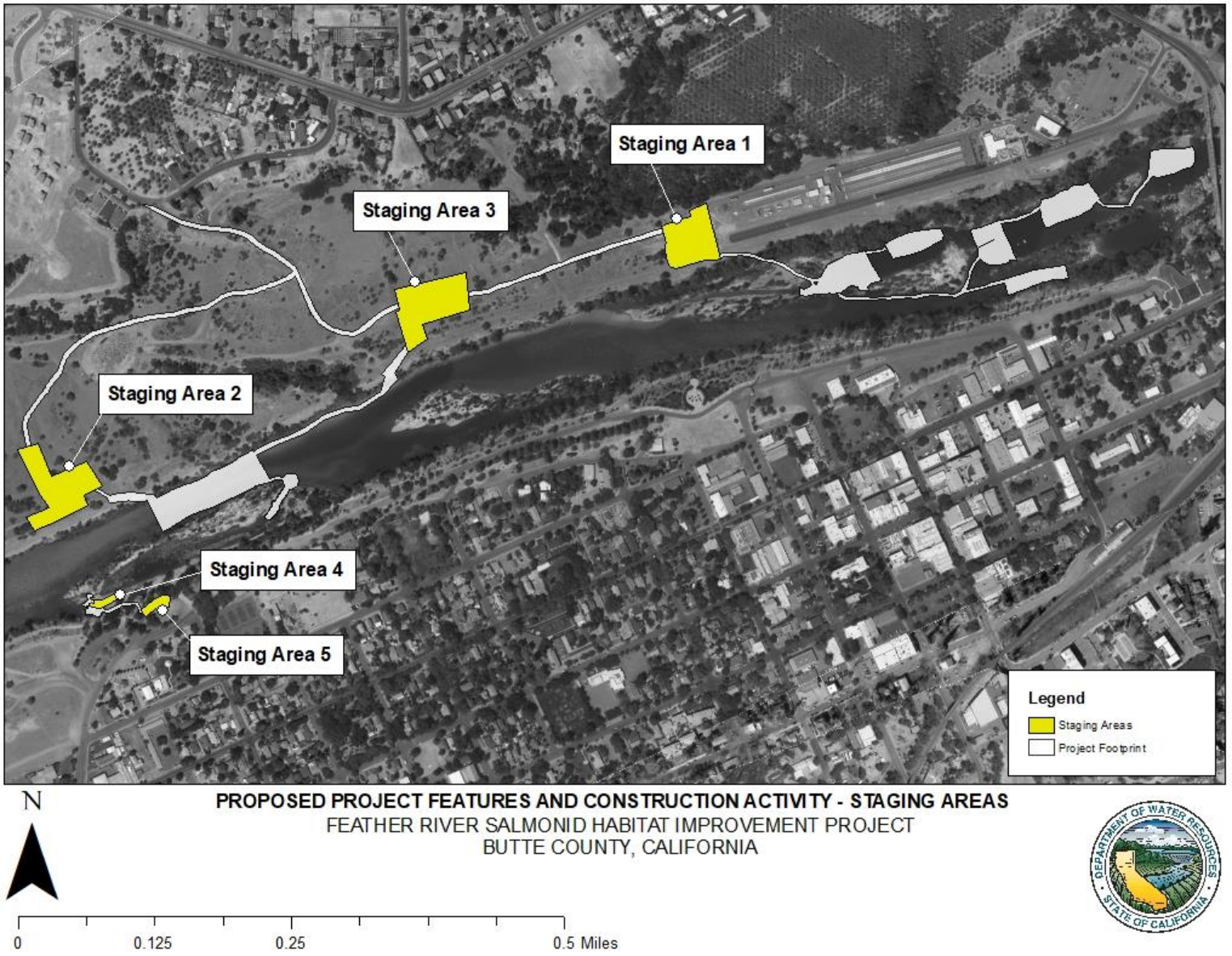
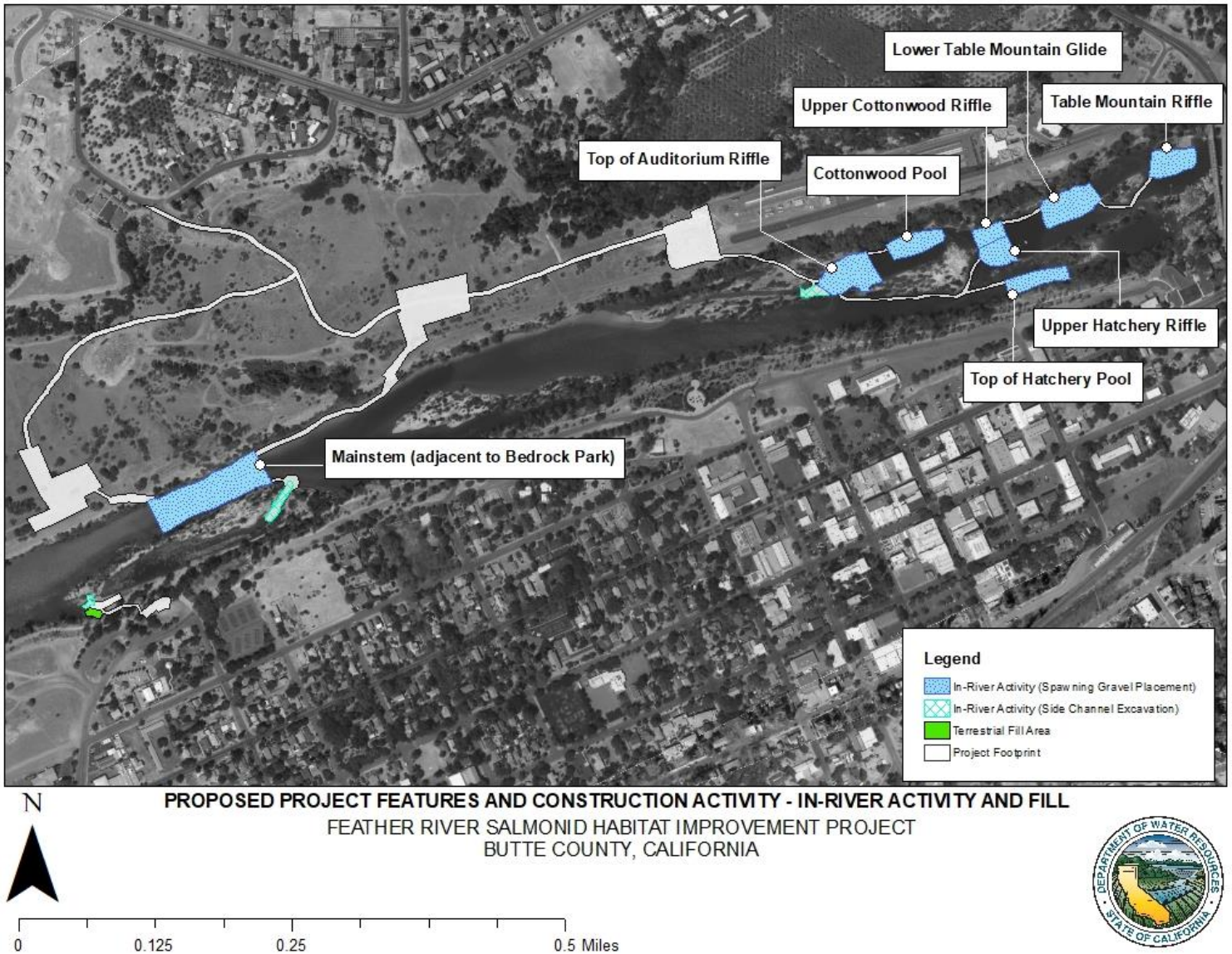


Figure 7 Proposed Project Features and Construction Activity – In-River Activity and Fill



2.1.1 Access Routes

Proposed construction activities would require the use of terrestrial and in-river access routes (see Figure 5). The alternatives for each type of access route are described below.

Terrestrial Access Routes

To minimize potential impacts to vegetation and other sensitive resources, existing terrestrial access routes in previously disturbed areas would be utilized to the extent feasible. Minimal improvements to existing access routes, such as vegetation trimming and shallow grading (no deeper than 6 inches) or minor road base fill, may occur. New access routes would require the removal of small trees and grading within the root zone of trees and shrubs. Access to the project area would be from Oroview Drive through a locked access gate. New access routes would be constructed at the minimum allowable width to enable passage of construction vehicles and heavy equipment (see Table 2).

- **Terrestrial Access Route – Alternative 1.** Pending landowner access permission for a portion of this route, this is the preferred alternative for terrestrial access. This alternative includes segments 1A, 1B, 1C, 1D, and 1E (see Photos 4 through 8).
- **Terrestrial Access Route – Alternative 2.** This alternative access route includes segments 1A, 1B, and 1E from the preferred alternative, excludes segments 1C and 1D from the preferred alternative, and adds segment 2A (see Photo 9).

Table 2 Terrestrial Access Route Alternatives

Feature	Included in Alt 1?	Included in Alt 2?	Description	Approximate Acres
Route segment 1A	Yes	Yes	Existing gravel road that starts at Oroview Drive and connects to Staging Area 1 (just west of the FRFH). This area includes a locked bar gate and locked fence gate.	1.38
Route segment 1B	Yes	Yes	Existing gravel road that connects Staging Area 1 to the river.	0.17

Feature	Included in Alt 1?	Included in Alt 2?	Description	Approximate Acres
Route segment 1C	Yes	No	Existing cobble and dirt road that leads west from the segment 1A access route to Staging Area 2.	0.93
Route segment 1D	Yes	No	New connector route for access from Staging Area 2 to the river. Route would be constructed at an 11-percent slope by recontouring the slope. Route would require the removal of small trees and grading within the root zone of trees and shrubs. Imported material would not be needed. Route would remain in place for future habitat enhancement efforts.	0.21
Route segment 1E	Yes	Yes	Existing paved road on river left that connects to Bedrock Park Side Channel through a city-owned locked bar gate.	0.09
Route segment 2A	No	Yes	New connector route for access from Staging Area 3 to the river. Route would be constructed at a 19 percent slope by recontouring the slope . Route would require the removal of small trees and grading within the root zone of trees and shrubs. Imported material would not be needed. Route would remain in place for future habitat enhancement efforts.	0.25

Notes: FRFH = Feather River Fish Hatchery

Photo 4 Terrestrial access route Alternative 1 (segment 1A) at the locked access gate, looking southeast (February 18, 2022)

Photo 5 Terrestrial access route Alternative 1 (segment 1B), looking west (February 18, 2022)

Photo 6 Terrestrial access route Alternative 1 (segment 1C), looking southwest (February 18, 2022)

Photo 7 Terrestrial access route Alternative 1 (segment 1D), looking west (February 18, 2022)

Photo 8 Terrestrial access route Alternative 1 (segment 1E) at City access gate, looking north (February 18, 2022)

Photo 9 Terrestrial access route Alternative 2 (segment 2A), looking south-southwest (February 18, 2022)

Following completion of construction and prior to the onset of winter rains, willow cuttings would be planted at the downslope terminus of new access routes (segments 1D and 2A) along river right. If future use of these newly installed access routes to the river are needed, planted willows could be cut at or below ground level prior to construction.

In-River Access Routes

To temporarily access spawning gravel placement and side channel excavation areas, at least approximately 1,500 CY and up to approximately 3,500 CY of imported gravel would be used to construct in-river access routes (see Table 3). Once in-river activity is complete, heavy equipment would decommission these access routes by knocking down and pushing out the gravel as equipment leaves the river. The level of these access routes would be sufficiently lowered to maintain a surface water freeboard of at least 1 foot deep at 600 cfs to provide additional enhanced spawning habitat within the project area.

- **In-River Access Route – Alternative 1.** Pending landowner access permission for Terrestrial Access Route – Alternative 1, this is the preferred alternative for in-river access. This alternative includes segments 1F and 1G.
- **In-River Access Route – Alternative 2.** This alternative access route includes segments 1F and 1G from the preferred alternative and would add segment 2B.

Table 3 In-River Access Routes

Feature	Included in Alt 1?	Included in Alt 2?	Description	Approximate Acres
Route segment 1F	Yes	Yes	New temporary in-river gravel route to connect in-river activity areas adjacent to FRFH. Would be constructed with approximately 1,250 CY of imported gravel.	0.62
Route segment 1G	Yes	Yes	New temporary in-river gravel route to connect Bedrock Park Side Channel entrance with project features along river right.	0.10

Feature	Included in Alt 1?	Included in Alt 2?	Description	Approximate Acres
			Includes haul truck turnaround area during transport of excavated material. Would be constructed with approximately 250 CY of imported gravel.	
Route segment 2B	No	Yes	New temporary in-river gravel route to connect Route Segment 2A to in-river activity areas adjacent to Bedrock Park. Would be constructed with approximately 2,000 CY of imported gravel.	0.37

Notes: CY = cubic yards; FRFH = Feather River Fish Hatchery

2.1.2 Staging Areas

Five staging areas may be used depending on need (see Figure 6). Staging areas would be located within previously disturbed upland areas and no vegetation removal would be necessary (see Photos 10 through 15). These areas would be the primary locations for temporary daily heavy equipment staging and refueling, storage, stockpile management, and personnel parking (see Table 4).

Table 4 Staging Areas

Feature	Description of Activity	Approximate Acres
Staging Area 1	Located well inside the fence line of the FRFH on state lands and just west of the main facility, this staging area would be the primary stockpile source for in-river activity areas adjacent to the FRFH. Staging Area 1 may also be used to stockpile excavated material from the Bedrock Park Side Channel entrance.	1.33
Staging Area 2	Pending landowner access permission, this staging area is the preferred location to stockpile material for in-river activity areas adjacent to and within Bedrock Park.	1.76

Feature	Description of Activity	Approximate Acres
Staging Area 3	Located just inside the fence line of the FRFH on state lands, this staging area may be used instead of or in addition to Staging Area 2. If used, a temporary access opening may need to be created through the DWR-owned fence. If altered, the fence would be repaired during site demobilization. Staging Area 3 would also be used to stockpile excavated material from the Bedrock Park Side Channel entrance.	1.77
Staging Area 4	Located within an open grassy area along the Bedrock Park Side Channel pool, this staging area may be used for temporary stockpiling to sufficiently dry out approximately 100 CY of excavated material from the side channel exit, as needed.	0.12
Staging Area 5	Located within an existing paved parking lot at Bedrock Park, this staging area would be used for temporary parking of heavy equipment and refueling activity associated with excavation at the side channel exit.	0.17

Notes: CY = cubic yards; DWR = California Department of Water Resources; FRFH = Feather River Fish Hatchery

Photo 10 Staging Area 1, looking northwest (February 18, 2022)

Photo 11 Staging Area 2, looking west-northwest (February 18, 2022)

Photo 12 Staging Area 3, looking southwest (February 18, 2022)

Photo 13 Staging Area 3 at the potential location of a temporary fence opening, looking north-northeast (February 18, 2022)

Photo 14 Staging Area 4, looking west-southwest (July 27, 2022)

Photo 15 Staging Area 5, looking northeast (July 27, 2022)

2.1.3 In-River Activity

In-river activity described in this section focuses on spawning gravel placement and side channel excavation for salmonid habitat enhancement (see Figure 7). During the design process, habitat suitability was based on several parameters. These parameters include substrate gradated for adult Chinook salmon, as well as targets for water depth and water velocity based on past observations.

Spawning gravel would consist of uncrushed, rounded, natural river rock with no sharp edges. Gravel would be washed and would meet a cleanliness value of 85 or higher based on California Test No. 227 (California Department of Transportation 2012). Gravel would also be relatively free of oils, clay debris, and organic material. Gravel would be screened through various size grids (e.g., 5-inch square grid) to generate a suitable mix by volume (i.e., "percent retained" on screen) to meet spawning gravel criteria

(California Department of Water Resources 2014) (see Table 5).

Table 5 Gravel Specifications

Gravel Size (inches)	Percent Passing	Percent Retained
5	95 to 100	0 to 5
2	75 to 85	15 to 30
1	40 to 50	50 to 60
0.75	25 to 35	65 to 75
0.5	10 to 20	80 to 90
0.25	0 to 5	95 to 100

Source: California Department of Water Resources 2014

Spawning Gravel Placement

Spawning gravel placement would be located within previously enhanced habitat locations (described in Section 1.2.3), as well as a new area just downstream of the previously enhanced habitat. Approximately 12,760 CY of imported gravel and approximately 100 CY of material from excavation at Moe's Side Channel would be placed within the river (see Table 6).

Heavy equipment (e.g., dozers, excavators, and front-end loaders) would push gravel out in a series of bermed platforms to keep equipment adequately separated from open water and continuously moving gravel further out into the mainstem river until the dimensions for all gravel placement locations meet specifications (see Photo 16). As heavy equipment leaves the river, any remaining berms would be knocked down to maintain a surface water freeboard of at least 1 foot depth at 600 cfs. Movement of tracked equipment across the newly placed gravel would further add variability in subsurface gravel bed contours, which better aligns with naturally occurring conditions.

- **Truck Trips.** Using 25-ton highway haul trucks, approximately 813 round-trip truck trips would be needed to transport a total of approximately 16,260 CY of imported gravel (including up to approximately 3,500 CY described in "In-River Access Routes" in Section 2.1.1, "Access Routes") from a local commercial source to designated staging area locations within the project area. In addition, using 25-ton off-highway haul trucks, approximately 813 round-trip truck trips would

be needed to transport gravel from staging areas to the river.

Table 6 Spawning Gravel Placement Locations and Activity

Feature	Description of Activity	Approximate Acres
Table Mountain Riffle	Approximately 1,800 CY of imported gravel would be added to improve spawning conditions on the riffle.	0.59
Lower Table Mountain Glide	Approximately 2,600 CY of imported gravel would be added to improve spawning conditions throughout this glide.	0.85
Top of Hatchery Pool	Approximately 170 CY of imported gravel would be added to the pool to minimize depth and increase flows for improved spawning conditions.	0.50
Upper Cottonwood Riffle and Upper Hatchery Riffle	Approximately 2,450 CY of imported gravel would be replaced at Upper Cottonwood Riffle and added along the full length of Upper Hatchery Riffle to improve spawning conditions.	0.69
Cottonwood Pool	Approximately 1,300 CY of imported gravel would be added to the long pool between Cottonwood Riffle and Top of Auditorium Riffle to improve the substrate and increase water velocities for additional spawning opportunities in this area.	0.56
Top of Auditorium Riffle	Approximately 940 CY of imported gravel would be added to improve spawning conditions on the riffle. Additionally, approximately 100 CY of suitable material from Moe's Side Channel entrance may be redistributed here.	0.93
Mainstem (adjacent to Bedrock Park)	Approximately 3,500 CY of imported gravel would be placed and spread within the mainstem river adjacent to Bedrock Park.	2.05

Notes: CY = cubic yards

Photo 16 Example of Spawning Gravel Placement Method (Sacramento River, 2016)

Side Channel Excavation

Side channel excavation would focus primarily on side channel entrances where accumulated material had mobilized and migrated downstream from prior habitat enhancement efforts (see Table 7).

- **Truck Trips.** Using 25-ton off-highway haul trucks (at half capacity in wet conditions), approximately 60 round-trip truck trips would be needed to haul material from the Bedrock Park Side Channel entrance to Staging Areas 1 and 3 to stockpile the material to dry before transporting it off site. Thereafter, approximately 30 round-trip truck trips may be needed to haul unused material from staging areas to designated parcel approximately 4 miles from the project area (Assessor's Parcel Number 035-400-022-000). Using a 2- to 4-ton, rubber-tracked, off-highway haul truck, approximately 50 round-trip truck trips may be needed to haul material from the side channel exit

to Staging Area 5 to stockpile the material before placing it within the terrestrial fill area.

Table 7 Side Channel Excavation Locations and Activity

Feature	Description of Activity	Approximate Acres
Moe's Side Channel (entrance)	Using an excavator, approximately 100 CY of material would be excavated from the entrance of Moe's Side Channel to improve hydraulic capacity and then redistributed within the project area. If suitable for spawning, the excavated material would be placed within the Top of Auditorium Riffle. If excavated material is unsuitable for spawning, it may be used as road base on Terrestrial Access Routes.	0.11
Bedrock Park Side Channel (entrance)	Using an excavator, approximately 600 CY of material would be excavated to approximately 2 feet in depth at 600 cfs to maintain flows year-round. Material may remain on site for temporary short-term stockpiling at Staging Areas 1 and 3 to dry out before being hauled off site. If deemed suitable for future on-site gravel supplementation activity, material may also remain on site for longer-term stockpiling until the next gravel placement effort is needed (in approximately five years when a large enough flow event occurs to mobilize the supplemented gravel material).	0.17
Bedrock Park *S*ide *C*hannel (exit)	Using a small excavator, approximately 100 CY of material would be excavated to approximately 1 foot in depth at 600 cfs to maintain flows year-round. Material may be temporarily stockpiled at Staging Area 5 to dry out. No sorting or screening would occur on site. The existing flashboard dam at the side channel exit would be avoided and left in place.	0.04

2.1.4 Terrestrial Fill Area

Using a small excavator and mini rubber-tracked haul truck, approximately 100 CY of excavated material from the Bedrock Park Side Channel exit (e.g., organic silt, loam, gravel, and vegetative debris) would be spoiled along the side channel bank at river left, primarily placed within a low-lying area, and contoured to follow existing grade (see Photo 17).

Generally, material would be placed within the terrestrial fill area in a layer that reflects the sequence of excavation: vegetative debris followed by mixture of organic silt or loam and gravel. Any excavated large cobble or boulders would be set aside and placed back in water within the side channel excavation footprint. Following construction and prior to the onset of winter rains, the terrestrial fill area would be stabilized as appropriate and in compliance with regulatory permits.

Photo 17 Terrestrial Fill Area, looking south-southeast (July 27, 2022)

2.2 Construction Equipment

Heavy equipment and vehicles to be used during construction may include the following:

- Fuel truck.
- Water truck.
- Street sweeper.
- Front end loader with bucket.
- 25-ton highway haul trucks.
- 25-ton off-highway haul trucks.
- Excavators with thumb bucket.
- Dozers.
- Small excavator (rubber-tracked).
- Small haul truck (rubber-tired).
- Hydro seeder.

2.3 Construction Schedule and Sequencing

Construction would take approximately three months to complete and is anticipated to begin June 1, 2023 and end by August 31, 2023, outside the salmonid spawning season (September 9 to March 31) and at lower river flows (approximately 600 cfs to 1,500 cfs). Additionally, in-river construction would not begin until July 1 to further minimize disturbance to adult or juvenile salmonids.

Construction activities would occur between sunrise and sunset on weekdays, with the exception of Fridays when work would not continue past 6:00 p.m. If weekend or holiday work is required, construction activities would not start before 8:00 a.m. on holidays or Saturdays and would not start before 10:00 am on Sundays. Work activities would not continue past 6:00 p.m. on Saturdays or Sundays.

For site demobilization, any off-site haul activity after August 31 may occur between September and December, which is outside the typical nesting, foraging, or flight season for potential listed or sensitive species within the vicinity. Revegetation activity would also be implemented during the fall or winter season when success for planting of native species is more likely.

Depending on funding, in-river activity may be implemented in phases over two consecutive years. Phase 1 (June – August 2023) would prioritize gravel placement adjacent to the FRFH, and Phase 2 (June – August 2024) would implement activities in the downstream Bedrock Park area. Generally, construction would be completed in the following order:

- Site mobilization (e.g., use of terrestrial access routes and staging areas to bring materials and equipment into the project area).
- Terrestrial access route construction.
- In-river access routes construction.
- Spawning gravel placement.
- Side channel excavation.
- In-river access route decommissioning.
- Site demobilization (e.g., riverbank stabilization and planting, repair of DWR-owned fence, removal of materials and equipment from staging areas).

2.4 Maintenance and Monitoring

There is no planned long-term maintenance for the proposed project. After project completion, gravel movement and deposition will be influenced by river flows, and it is expected that the gravel will migrate downstream within the LFC of the Feather River during subsequent high-flow events and enhance suitable and accessible salmonid spawning habitat conditions in the system, further meeting the purpose of this project.

DWR has historically monitored, and would continue to monitor, the project area for at least four years after construction. Spawning habitat use by spring- and fall-run Chinook salmon and Central Valley steelhead would be monitored during annual redd surveys conducted in the project area. Noticeable differences in the number of redds or differences in the distribution of redds would be sufficient to demonstrate if the expected benefits of the proposed project have been achieved.

2.5 Environmental Commitments

Preventative measures, plans, and best management practices (BMPs) were incorporated into the proposed project's design, and project design

refinements were made accordingly, to avoid or minimize potential adverse effects to the environment during construction.

Proposed access routes and staging areas would be located primarily along existing access routes or in previously disturbed areas to minimize impacts to vegetation and riparian wetlands and to avoid elderberry shrubs. A construction work window was established to be protective of spawning and rearing special-status fish species, as well as other sensitive species.

The environmental commitments listed below outline additional avoidance and minimization efforts that DWR or its contractors will implement as part of the project. The environmental analysis in this initial study considers these environmental commitments as elements of the proposed project when evaluating the level of significance of potential impacts.

2.5.1 Prepare a Construction Management Plan

The contractor shall prepare a construction management plan to avoid or minimize potentially adverse environmental impacts and impacts to public health and safety during proposed project construction. The management plan shall include construction information, such as work hours and schedule, phasing of construction, locations of transportation and parking for construction workers, location of potential hazards within the construction area, haul routes, stockpiling and staging procedures, waste management procedures, the terms and conditions of all project permits and approvals, employee health and safety procedures, and emergency response contact information.

The construction management plan shall also include the implementation of public safety for river and park recreationists during in-river construction activities, such as posting signage provided by DWR at nearby boat ramps and swimming holes to alert water recreationists of construction activities and restricting public access within the in-river project area and Bedrock Park.

In addition, the management plan shall include BMPs for pedestrian and vehicle construction traffic safety, including the use of signs and flaggers, when necessary, to inform residents of large trucks and equipment in the area and to inform equipment operators of recreationists in the vicinity.

2.5.2 Conduct Worker Environmental Awareness Training

Before any construction begins, all construction personnel shall participate in a mandatory worker environmental awareness training provided by a qualified DWR biologist or designated consultant. The training shall include a discussion of sensitive biological resources within the project area, including special-status species and their associated habitat and the protection measures required during project implementation. In addition, a qualified archaeologist provided by DWR or a designated consultant will conduct mandatory cultural and tribal cultural resources awareness training and ensure that the contractor and DWR inspectors are aware of the boundaries of environmentally sensitive areas and the associated avoidance requirements.

2.5.3 Implement DWR's Greenhouse Gas Emission Reduction Plan

The proposed project will incorporate applicable BMPs from DWR's *Climate Action Plan-Phase I: Greenhouse Gas Emissions Reduction Plan* (GGERP) to avoid and minimize impacts related to greenhouse gas (GHG) emissions (California Department of Water Resources 2012a, 2012b). Below is the complete list of BMPs.

BMP 1. Evaluate project characteristics, including location, project workflow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drivetrains, or other high-efficiency technologies are appropriate and feasible for the project or specific elements of the project.

BMP 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

BMP 3. Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.

BMP 4. Evaluate the feasibility and efficacy of producing concrete on site and specify that batch plants be set up on site or as close to the site as possible. (This BMP is not applicable to the proposed project.)

BMP 5. Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize GHG emissions from cement production and curing while preserving all required performance characteristics. (This BMP is not applicable to the proposed project.)

BMP 6. Limit deliveries of materials and equipment to the site to off-peak traffic congestion hours.

BMP 7. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure California Code of Regulations, Title 13, Section 2485). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.

BMP 8. Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an air quality control plan prior to commencement of construction.

BMP 9. Implement a tire inflation program on the jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on site and every two weeks for equipment that remains on site. Check vehicles used for hauling materials off site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an air quality management plan prior to commencement of construction.

BMP 10. Develop a project-specific rideshare program to encourage carpools, shuttle vans, transit passes, and secure bicycle parking for construction worker commutes.

BMP 11. Reduce electricity use in temporary construction offices by using high-efficiency lighting and requiring that heating and cooling units be

Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.

BMP 12. For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box-type trailer is used for hauling, a SmartWay2-certified truck will be used to the maximum extent feasible.

BMP 13. Minimize the amount of cement in concrete by specifying higher levels of cementitious material alternatives, larger aggregate, longer final set times, or lower maximum strength where appropriate. (This BMP is not applicable to the proposed project.)

BMP 14. Develop a project-specific construction debris recycling and diversion program to achieve a documented 50-percent diversion of construction waste.

BMP 15. Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution, minimize, to the extent possible, uses of public roadways that would increase traffic congestion.

2.5.4 Prepare a Stormwater Pollution Prevention Plan

The contractor shall be required to prepare a stormwater pollution prevention plan (SWPPP) and receive approval from the Central Valley Regional Water Quality Control Board (CVRWQCB) prior to the start of construction. The BMPs specified by the SWPPP shall be implemented to monitor, minimize, and prevent construction dirt, debris, stormwater runoff, and miscellaneous by-products from entering the Feather River. BMPs may include the following:

- Disturbed areas shall be minimized to the extent practicable, and sensitive areas (e.g., steep slopes and natural watercourses) shall be avoided where construction activities are not required or could be avoided.
- Temporary stabilization of disturbed soils shall be provided whenever active construction is not occurring on a portion of the site.
- Temporary water pollution control measures, such as sandbags, silt fences, application of straw and seed, or other erosion control devices,

shall be placed along the disturbed riverbank to minimize sediment from entering the river, as appropriate. Erosion control materials, such as coir rolls or erosion control blankets, will not contain plastic netting that could entrain wildlife. Sediment shall be removed from sediment control materials once it has reached one-third of the exposed height of the control and placed in an upland location where it cannot be washed into the river. Spoils shall be hauled away from river as soon as possible to minimize sediment delivery to the river. Temporary stockpiles shall be in areas a sufficient distance from watercourses, where it cannot enter the river or watercourse.

- Spoil areas containing erodible material shall be stabilized at the end of the construction season or when rain is possible.
- Silt curtains or other methods may be utilized to minimize turbidity within the Feather River when performing any in-water work or work immediately adjacent to the river.
- Water quality monitoring, which shall be conducted during all periods of in-water work, may include observations of visible sediment plumes in surface waters, turbidity measurement, settleable solids measurement, and visual observations for construction-related pollutants, both upstream from construction activities and downstream of the active work area pursuant to permit requirements. Water quality monitoring shall inform construction activities, and temporary cessation of in-water work shall be implemented if permit thresholds are exceeded. In-water work may resume when water quality parameters decrease to levels below permit requirements.

2.5.5 Prepare a Spill Prevention and Control Plan

The contractor shall be required to prepare and implement a spill prevention and control plan prior to construction, which will contain measures to avoid or minimize potential chemical contamination within the Feather River and its floodplain. The plan may include the following construction BMPs:

- All personnel involved in use of hazardous materials shall be trained in emergency response, spill control, and notification.
- Contractors shall have oil-absorbent and spill-containment materials on site when mechanical equipment is in operation within 100 feet of the river and shall adhere to all required State and federal standards. If a spill occurs, no additional work shall commence in-channel until

(1) the mechanical equipment is inspected by the contractor and the leak has been repaired, (2) the spill has been contained, and (3) the appropriate agencies have been contacted and have evaluated the impacts of the spill.

- Staging, storage, servicing, and refueling of vehicles and equipment shall take place outside the river channel. Any leaking equipment shall be removed from in-water work and repaired or replaced. All equipment shall be stored over impermeable surfaces, if available, and drip pans (or any other type of impermeable containment measure) will be placed under parked machinery and checked and replaced, when necessary, to prevent drips and leaks from entering the environment.

- Machinery that enters the river during work shall be cleaned, inspected daily, and properly maintained to avoid water quality contamination from the release of grease, oil, petroleum products, or other hazardous materials.
- Every reasonable precaution will be exercised to protect the river and other waters from pollution with fuels, oils, and other harmful materials. Safer alternative products (such as biodegradable hydraulic fluids) will be used where feasible.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into the river.
- Any fuel stored within the project area shall be stored outside the channel in a double-walled contained vessel surrounded by a secondary containment appropriately sized for the volume.
- Spill containment kits shall be on site at all times and made readily available.

2.5.6 Develop a Fire Protection and Prevention Plan

The project contractor shall be required to develop a fire protection and prevention plan. The plan shall include the following requirements:

- Fire safety training for all construction employees.
- Proper maintenance (e.g., working spark arresters) and operation (e.g., restrictions on the use of gasoline-powered tools around flammable vegetation) of construction equipment.

- Mowing of the parking areas, where necessary, to keep vegetation from coming in contact with the hot undercarriage of employee and construction vehicles.
- On-site fire suppression tools (e.g., shovels, fire extinguishers) for each construction vehicle, and proper disposal of flammable vegetative waste material during dry weather periods.

Chapter 3. Environmental Factors Potentially Affected

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

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

Determination

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 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 the 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 (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) 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.

_____ _____

Signature Date

3.1 Environmental Checklist

Appendix G of the CEQA Guidelines was used as the basis for assessing the significance of potential environmental impacts, taking into account the whole of the action as required by CEQA. Agency standards, regulatory requirements, and professional judgement were also used, where appropriate.

Each of the resources was evaluated and one of the following determinations was made to describe the level of significance of impacts:

- No Impact: No impact on the environment would occur as a result of implementing the project.
- Less than Significant: Implementation of the project would not result in a substantial and adverse change to the environment and no mitigation would be required.
- Less than Significant with Mitigation Incorporated: Implementation of the project could result in a substantial, or potentially substantial, adverse change to the environment, but incorporation of identified mitigation measures would reduce the impact to a less-than-significant level.
- Significant and Unavoidable: Implementation of the project could result in an impact that has a substantial, or potentially substantial, adverse change to the environment and mitigation to reduce the impact to a less-than-significant level is not possible.

If a potentially significant impact was identified, mitigation measures were provided to reduce the impact to a less-than-significant level.

3.2 Resources Eliminated from Further Analysis

During the environmental analysis conducted for the proposed project, several resources were eliminated from detailed analysis because no impacts from project implementation are anticipated. A description of the resources and an explanation for eliminating them from further analysis are provided below.

3.2.1 Agriculture and Forestry Resources

The project area and surrounding lands consist of residential areas, public facilities, a city park, and the Feather River. Because there are no agriculture

or forestry resources within or adjacent to the project area, no impact to these resources would occur.

3.2.2 Energy

The proposed project is a habitat improvement project that would not create new permanent sources of energy demand. Construction activities would not result in energy consumption that is wasteful, inefficient, or unnecessary. Energy consumption during construction would be short term and would not conflict with or obstruct implementation of a State or local plan for renewable energy or energy efficiency. Therefore, there would be no energy-related impact.

3.2.3 Land Use and Planning

Proposed project construction activities would occur adjacent to lands with zoning designations of rural residential and public or quasi-public facilities; much of the land located immediately adjacent to the right bank of the Feather River within the project area does not have a zoning designation (City of Oroville 2021). The location of project activities would be limited to existing and proposed access routes, proposed staging areas, and designated areas of the Feather River and its side channels. Construction activities would be temporary and would not conflict with existing land use designations. There would be no conversion of existing land use, and the proposed project would not result in conflict with local or State regulations. Therefore, there would be no impact to land use and planning.

3.2.4 Mineral Resources

The project area soils adjacent to the river are classified as "Xerorthents, tailings" to the north and "Xerorthents, tailings-Urban land complex" to the south. The Xerorthents map unit is used to classify areas of dredge tailings (Natural Resources Conservation Service 2022). Xerorthents are considered a poor source of gravel construction material and are not proposed for use during project implementation. Implementation of the proposed project would require the importation of suitable spawning gravel from an existing commercial source. Imported gravel would not be sourced from the two mineral resource areas classified as mineral resources of regional or statewide significance in the Butte County general plan (Butte County 2012) and would 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 or 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. Therefore, there would be no impact on mineral resources.

3.2.5 Population and Housing

The proposed project does not propose to construct new homes, businesses, public road extensions, or other infrastructure. The proposed project would employ existing DWR staff and regionally sourced contractors. Accordingly, the proposed project would not induce population growth in the area and would not affect nearby cities or towns. Temporary construction activities associated with salmonid habitat improvement would not displace existing homes or people, and construction of replacement housing would not be required. Therefore, there would be no impact to population or housing.

3.2.6 Public Services

The proposed project would not result in the construction of any new facilities or increase of population that would generate a need for new or physically altered public service facilities to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities. Therefore, there would be no public services impacts.

3.2.7 Transportation

The circulation system surrounding the project area would be subject to a short-term increase in traffic along SR 70 and Oroview Drive during project construction. Increases in traffic would occur when heavy equipment is transported to the project area at the start of construction, when gravel is transported to the site, and when excavated material and heavy equipment are transported out of the project area at the end of construction. During the anticipated construction period, there would be a minimal increase in traffic on these roads resulting from the daily transportation of construction personnel to and from the project area. These temporary increases in traffic would not conflict with programs, plans, ordinances, or policies addressing the circulation system, and would not conflict or be inconsistent with CEQA Guidelines, Section 15064.3(b). The proposed project would improve spawning and rearing habitat in the river and would not increase hazards because of a design feature or incompatible use. Construction activities would not occur within roadways and would not restrict emergency access. There would be no transportation-related impacts.

3.2.8 Utilities and Service Systems

The proposed project would not result in the relocation or construction of any new facilities for stormwater, wastewater, or other utilities or result in population increase that would generate an increase in demand for utilities and service systems requiring new construction. Also, the proposed project would not require wastewater treatment services. Sufficient water supply is available for the minimal amount of water that might be needed temporarily during construction for dust control or equipment cleaning. The amount of solid waste generated by the proposed project would be minimal, would not exceed capacity or impair the attainment of solid waste reduction goals, and would comply with federal, State, and local statutes related to solid waste. Therefore, there would be no impact on utilities and service systems.

3.2.9 Wildfire

The project area is located within a local responsibility area classified as a "non-very high fire hazard severity zone" (California Department of Forestry and Fire Protection 2022). The proposed construction activities would not impair an adopted response plan or emergency evacuation plan, exacerbate wildfire risk, or expose people or structures to significant risk of upstream or downstream flooding or landslides. Therefore, there would be no impacts to wildfire risk.

3.3 Aesthetics

I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:	**Level of Significance**
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
c) In nonurbanized 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 publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than Significant
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

3.3.1 Environmental Setting

The lands adjacent to the project area are developed and include Oroville Facilities such as the FRFH (which includes a building, rearing channels, lighted parking areas, and other facilities) and the 91-foot-high, 600-foot-long concrete fish barrier dam. The FRFH facilities contrast with the nearby landscape in terms of shape, color, and texture. The Fish Barrier Dam (and its waterfall) and the Fish Barrier Pool are generally visually compatible with their surroundings. Other developed areas include the Feather River Nature Center, the Table Mountain Boulevard Bridge, the SR 70 Bridge, Bedrock Park, scattered residences overlooking the river, and trails along the adjacent levee system. People with views of the project area include passing motorists, recreationists, and visitors to the FRFH and Bedrock Park. There are no designated scenic highways within or adjacent to the project area. The nearest designated scenic area is the Oroville Wildlife Area, located approximately 1.3 miles southwest of the project area.

3.3.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

***No Impact*.** Because there are no designated scenic vistas in the project area, the project would have no impact on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

***No Impact*.** Because the project area is not visible from a designated scenic highway or highway eligible for designation, the proposed project would have no impact on scenic resources.

c) In nonurbanized 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 publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

***Less than Significant*.** The proposed project would not conflict with the zoning in the area or with the scenic resources designated in the Butte County general plan. Construction activities would occur within the Feather

River and on existing access routes, as well as on new access routes and designated staging areas located on previously disturbed land.

During construction, short-term or long-term stockpiling of natural gravel material in staging areas would not substantially degrade the existing visual character or quality of the public views of the area because the material would not obstruct views, would consist of materials common to the area, and would be consistent in appearance with the natural surroundings.

At the end of construction, new access routes may be left in place and stabilized as appropriate and in compliance with regulatory permits (as stated in the SWPPP described in Section 2.5.4, "Prepare a Stormwater Pollution Prevention Plan"). These access routes would be consistent with the visual character of the project area. Impacts to the existing visual character or quality of public views of the site and its surroundings therefore would not be substantial and would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

***No Impact*.** Because construction activities would occur during daylight hours and would not involve the construction of any structures that would emit light or glare, the proposed project would have no impact on day or nighttime views.

3.4 Air Quality

III. AIR QUALITY — Would the Project:	**Level of Significance**
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
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?	Less than Significant with Mitigation Incorporated
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than Significant
d) Result in other emissions (such as those leading to odors), adversely affecting a substantial number of people?	Less than Significant

3.4.1 Environmental Setting

The project area is located within the jurisdiction of the Butte County Air Quality Management District (BCAQMD). Ozone is the air pollutant of greatest concern in Butte County. Ozone is an invisible pollutant formed by chemical reactions involving nitrogen oxides (NO_x), reactive hydrocarbons such as diesel, and gasoline emissions in the presence of sunlight. It is a powerful respiratory irritant that can cause coughing, shortness of breath, headaches, fatigue, and lung damage, especially among children, the elderly, and the sick. Butte County is designated as nonattainment for 8-hour ozone by established State and federal air quality standards. A "nonattainment" designation indicates that a pollutant concentration violated the established standard at least once within the last three years.

Particulate matter can also be an air pollutant of concern. Sources of directly emitted particulates in Butte County include soil from farming, construction dust, paved road dust, smoke from residential wood combustion, and exhaust from fuel-burning mobile sources such as cars and trucks. For health reasons, the greatest concern is with inhalant particulate matter less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$), which can lodge in the most sensitive areas of the lungs and cause respiratory or other health problems. Butte County is in attainment for PM_{10} and $PM_{2.5}$ by federal standards but is in nonattainment for 24-hour PM_{10} and annual $PM_{2.5}$ by State standards (Butte County Air Quality Management District 2022).

Air pollutants can affect sensitive receptors. For the purposes of CEQA, sensitive receptors include residences, educational facilities, daycare centers, and health care facilities. Sensitive receptors in the vicinity of the project area include numerous residences adjacent to this reach of the Feather River and the surrounding commercial and business areas that include daycare and educational facilities.

3.4.2 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan?

***No Impact*.** Project construction would include the use of large construction equipment including but not limited to loaders, excavators, dozers, haul trucks, and a water truck. Transportation vehicles would also be used. All

equipment would be operated under current California air regulations as enforced by the BCAQMD. The limited effects to air quality that would result either directly or indirectly from project construction would be temporary. As a result, construction activities are not anticipated to conflict with or obstruct implementation of Butte County or State air quality plans. Therefore, there would be no impact.

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?

***Less than Significant with Mitigation Incorporated*.** Project construction has the potential to temporarily affect ambient air quality by generating criteria pollutant emissions during operation of construction vehicles and equipment, and during transport of gravel material to the project area. Potential project-related emissions include PM_{10} and ozone precursors. Fugitive dust emissions from ground-disturbing activities and driving on unpaved roads could also contribute to increases in PM_{10} emissions. Project-related increases of ozone precursors could be potentially significant because Butte County is in nonattainment for ozone by State and federal standards. Project-related increases of PM_{10} and diesel particulate matter could also be significant if emissions exceed the Butte County standards for construction-related emissions, which are 137 pounds per day (lbs/day) for the ozone precursors reactive organic gases (ROG) and NO_x, and 80 lbs/day for PM_{10} (Butte County Air Quality Management District 2014). But, projects that do not exceed the BCAQMD significance thresholds may be assumed to have a less-than-significant impact regarding a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment (Butte County Air Quality Management District 2014).

Per the BCAQMD CEQA Air Quality Handbook, construction-related air pollutant emissions were modeled. The BCAQMD allows for the use of the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model to quantify project emissions of criteria air pollutants (Sacramento Metropolitan Air Quality Management District 2018). Estimates of equipment and usage were calculated and entered into the model. Input for the air quality analysis were also used for the GHG emissions analysis (refer to Section 3.8, "Greenhouse Gas Emissions") and are included in Appendix A. A conservative approach was taken when

modeling project emissions, and the methodology used in the model to calculate fugitive dust emissions (i.e., PM_{10}) is a simplified methodology involving only estimates of the maximum acreage of land disturbed daily. Actual proposed project emissions are, therefore, expected to be below the modeled projections.

Based on modeling results, the maximum construction-related air pollutant emissions for the ozone precursors ROG and NO_x would be 4.93 and 30.26 lbs/day, respectively. These estimated emission levels are well below the BCAQMD significance threshold of 137 lbs/day and would be less than significant.

Model input included the use of a water truck for the duration of the construction period. Modeling results indicate that maximum emissions of PM_{10} would be 79.53 lbs/day, which is just below the BCAQMD threshold of 80 lbs/day. Levels of PM_{10} emissions would be less than significant.

Implementing the emission and dust control measures included in Mitigation Measure AQ-1 would further reduce potential air quality impacts by assuring that the use of fueled equipment in connection with project construction would not generate excessive amounts of particulate matter in the form of dust or equipment exhaust.

Mitigation Measure AQ-1: Implement BCAQMD Best Practices to Minimize Air Quality Impacts

Tier 4 equipment, including off-highway haul trucks and other equipment entering the river, will be used to the extent feasible. In addition, the following is a list of measures that may be required by BCAQMD throughout the duration of the construction activities:

- All on- and off-road diesel equipment shall not idle for more than five minutes.
- Signs shall be posted in the designated queuing areas or job sites to remind drivers and operators of the five-minute idling limit.
- Idling, staging, and queuing of diesel equipment within 1,000 feet of sensitive receptors is prohibited.
- All construction equipment shall be maintained in proper tune according to the manufacturer’s specifications. Equipment must be

checked by a certified mechanic and determined to be running in proper condition before the start of work.

- Diesel particulate filters must be installed or other California Air Resources Board (CARB)-verified diesel emission control strategies must be implemented.
- To the extent feasible, truck trips shall be scheduled during non-peak hours to reduce peak hour emissions.
- Where possible, reduce the amount of the disturbed area.
- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. An adequate water supply source must be identified. Increased watering frequency would be required when wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.
- All dirt stockpile areas should be sprayed with water daily as needed, covered, or a DWR-approved alternative method will be used.
- Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.
- Exposed ground areas that will be reworked at dates greater than one month after initial grading should be sown with a fast-germinating, non-invasive grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by DWR.
- All roadways, driveways, sidewalks, and the like, to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with local regulations.

- Where vehicles enter and exit unpaved roads onto streets wheel washers will be installed or trucks and equipment will be washed off before leaving the site. Streets will be swept at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.
- Appropriate signage will be posted in prominent locations that are visible to the public. Signage will include the telephone numbers of the contractor and a DWR point-of-contact to direct any questions or concerns about dust generated from the project.

c) Expose sensitive receptors to substantial pollutant concentrations?

–and–

d) Result in other emissions (such as those leading to odors), adversely affecting a substantial number of people?

Less than Significant. Diesel-powered construction equipment can generate diesel particulate matter, which is known to be a toxic air contaminant, and can generate emissions that produce what many people consider to be objectionable odors. Diesel-powered equipment would be used during construction, but construction activities would occur in an area surrounded by SR 70 and other major roadways and, therefore, would not be introducing a new source of air contaminant or odor. In addition, the duration of construction would be temporary and would occur in an undeveloped area, with construction activities occurring a minimum of approximately 1,000 feet from the nearest receptor. Given the short duration of construction and the distance to sensitive receptors, equipment and vehicle emissions would not expose sensitive receptors to substantial pollutant concentrations and would not significantly affect a substantial number of people, resulting in a less-than-significant impact.

3.5 Biological Resources

IV. BIOLOGICAL RESOURCES — Would the Project:	**Level of Significance**
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	Less than Significant with Mitigation Incorporated

IV. BIOLOGICAL RESOURCES — Would the Project:	**Level of Significance**
Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less than Significant
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less than Significant
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?	Less than Significant with Mitigation Incorporated
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
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?	No Impact

3.5.1 Environmental Setting

Fisheries and Aquatic Habitat

The project area is located within the LFC of the Feather River with flows regulated by upstream hydroelectric, water storage, and diversion projects. The aquatic habitats within and adjacent to the project area consist primarily of riffle, run, and pool habitat types with side channel habitat adjacent to the mainstem river. Previous salmonid spawning habitat restoration projects have been implemented within the upstream reach of the project area, which included riffle ripping and raking, side channel reconnection, and placement of clean spawning gravel. An existing side channel flows through Bedrock Park at the downstream reach of the project area, where cobble and gravel that have deposited at the inlet and outlet restrict flows through the side channel. Riparian vegetation occurs along both banks of the river and side channels within the project area (refer to the "Vegetation Communities" subsection, below, for a detailed description of riparian vegetation).

The Fish Barrier Dam, located one-quarter mile upstream of the project area, blocks upstream migration of anadromous salmonids and concentrates the intensity of habitat utilization to unnaturally high levels in the LFC. This increased concentration of intensity causes increased competition for spawning habitat and contributes to increased adult pre-spawning mortality levels (California Department of Water Resources 2008). Chinook salmon are the most numerous fish species in the lower Feather River. Approximately two-thirds of the natural Chinook salmon spawning occurs between the Fish Barrier Dam and the Thermalito Afterbay Outlet. Chinook salmon spawning typically occurs from September through December. Most juvenile Chinook salmon emigrate from the lower Feather River within a few days of emergence, and 95 percent of the juvenile Chinook salmon have typically emigrated from the area of the Oroville Facilities by the end of May. Adult Chinook salmon exhibiting the typical life history of the spring-run DPS are found holding at the Thermalito Afterbay Outlet and the Fish Barrier Dam as early as April (California Department of Water Resources 2008).

Wildlife and Wildlife Habitat

Four wildlife habitat types were identified within the project area based on the California Wildlife Habitat Relationships classification system (Mayer and Laudenslayer 1988). These habitat types include annual grassland, barren, riverine, and valley foothill riparian. Wildlife habitat descriptions focus on the value of the vegetation community to wildlife, rather than on the plant species composition.

Annual Grassland

Annual grassland habitat is composed primarily of annual plant species. Vernal pools can occur within this habitat type when depressions are underlain by an impervious soil layer (Mayer and Laudenslayer 1988). Surveys indicate that vernal pools are absent from the project area. Common wildlife species associated with annual grassland habitat include the black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), gopher snake (*Pituophis catenifer*), western fence lizard (*Sceloporus occidentalis*), California vole (*Microtus californicus*), American badger (*Taxidea taxus*), western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), and northern harrier (*Circus cyaneus*). Annual grassland

habitat within the project area is located along the upper slope and terrace along the north bank and is composed primarily of non-native annual grasses and forbs growing on the cobbly substrate of the leveled tailings.

Barren

Barren habitat type is defined by the absence of vegetation and includes areas with less than 2 percent herbaceous cover and less than 10 percent tree cover (Mayer and Laudenslayer 1988). Common wildlife species associated with barren habitats include killdeer (*Charadrius vociferus*), gulls, terns, and the western fence lizard. Barren areas within the project area consist primarily of existing gravel and dirt roads, but also include the proposed staging areas, tailings at the top of the north embankment, and unvegetated gravel bars associated with the Feather River.

Riverine

The riverine habitat type includes rivers and streams containing intermittent or continually flowing water and consists of open water (greater than 2 feet in depth), submerged areas near the shore, and banks with less than 10 percent canopy cover (Mayer and Laudenslayer 1988). Waterfowl use open water areas for resting. Osprey (*Pandion haliaetus*), double-crested cormorants (*Phalacrocorax auritus*), gulls, and terns forage in open water areas. Shorebirds and wading birds, including herons, egrets, and sandpipers, forage along the submerged zone near the shore. Insectivorous species, including swallows and phoebes, forage over riverine habitat. Banks associated with rivers can provide cover or nesting substrate for bank swallows and belted kingfishers (*Megaceryle alcyon*), and the common muskrat, river otter (*Lutra canadensis*), and American beaver (*Castor canadensis*). This reach of the Feather River, including associated side channels, is classified as riverine habitat, and is regulated year-round at a minimum of 600 cfs.

Valley Foothill Riparian

Valley foothill riparian consists of mature forest of cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), and sycamore (*Platanus racemosa*), with an often impenetrable understory of white alder (*Alnus rhombifolia*), willow (*Salix spp.*), Oregon ash (*Fraxinus latifolia*), elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak (*Toxicodendron diversilobum*), and grapevine (*Vitis californica*). This habitat is associated with the high water table and alluvial soils of stream corridors and floodplains. Valley foothill

riparian habitat is designated as a sensitive habitat because of its declining trend and high value to wildlife and hydrologic function. Valley foothill riparian habitat provides food, water, cover, and reproductive areas for a wide variety of California wildlife species, including 50 species of reptiles and amphibians, 55 mammals, and 147 birds (Mayer and Laudenslayer 1988). Valley foothill riparian habitat also provides migration and dispersal corridors for many wildlife species. This habitat provides nesting habitat for neotropical migratory birds and provides nesting and nursery habitat for heron and egret rookeries. Numerous wildlife species are dependent upon riparian habitat, including the red-shouldered hawk (*Buteo lineatus*), ring-tailed cat (*Bassariscus astutus*), yellow-breasted chat (*Icteria virens*), and American mink (*Mustela vison*). Valley foothill riparian habitat in the project area exists along both sides of the Feather River channel and along vegetated portions of the alluvial bars within and along the channel.

Vegetation Communities

Vegetation communities within the project area can be broadly categorized as savanna, disturbed or unvegetated, woodland, and riparian forest and scrub.

Ailanthus savanna is the most abundant vegetation type, consisting of widely spaced trees with grass dominated (*Bromus* spp.) areas in between. The most abundant Ailanthus savanna tree species are tree-of-heaven (*Ailanthus altissima*), almond (*Prunus dulces*), and pistachio (*Pistacia* sp.), and native live oak (*Quercus wislizeni*).

Disturbed areas include unvegetated mine tailings and roads, as well as unvegetated portions of the riverbed.

Woodlands contain more densely growing stands of trees than the savanna vegetation type, along with other weedy species such as edible fig (*Ficus carica*) and tree tobacco (*Nicotiana glauca*).

Riparian forest and scrub grow parallel to the Feather River channel, where hydrophytic trees, shrubs, and herbaceous plants have permanent access to water. Common riparian forest and scrub species include willows (*Salix* spp.), sycamore (*Platanus racemosa*), ash (*Fraxinus latifolia*), valley oak (*Quercus lobata*), French broom (*Genista monspessulana*), and Himalayan blackberry (*Rubus armeniacus*).

Wetlands and other Waters of the U.S.

DWR conducted a wetland delineation within the proposed construction disturbance area on September 8 and November 17, 2022. Methods followed the 1987 *Corps of Engineers Wetland Delineation Manual* (U.S. Army Corps of Engineers 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008), and adhered to the *Minimum Standards for Acceptance of Preliminary Wetland Delineations* (U.S. Army Corps of Engineers 2001). Potentially jurisdictional other waters of the U.S. were also delineated, in accordance with procedures described in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar and McColley 2008).

Approximately 7.6 acres of potentially jurisdictional aquatic resources within the project area are located within the Feather River's ordinary high water mark, which in the absence of wetlands is the lateral limit of U.S. Army Corps of Engineers (USACE) jurisdiction.

Special-Status Species

Special-status species include those species federally or State-listed as endangered, threatened, or candidate; State-listed as species of special concern or fully protected species; or ranked by the California Native Plant Society as a rare plant. A list of special-status species that have some likelihood of occurring within the project area was generated in part by querying the California Natural Diversity Database for wildlife species within a 10-mile radius and plant species within nine adjacent U.S. Geological Survey 7.5-minute quadrangle maps (California Department of Fish and Wildlife 2022a), obtaining a species list from the USFWS (U.S. Fish and Wildlife Service 2022), and querying the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (California Native Plant Society 2022). Field surveys were conducted by DWR environmental scientists to evaluate and identify potential suitable habitat for special-status species within and adjacent to the project area from November 2021 through April 2022. Special-status plant surveys were performed on February 18 and May 23, 2022. Additional plant-related observations were made during other field activities, such as during elderberry mapping and aquatic resources delineation efforts in September and November 2021.

The list of special-status fish and wildlife species (see Table 8) and plant species (see Table 9) were evaluated for their potential to occur within the project area based on the availability of suitable habitat within or adjacent to the project area and their known range. The project area falls within designated critical habitat for spring-run Chinook salmon, Central Valley steelhead, and North American green sturgeon – Southern DPS (*Acipenser medirostris* [green sturgeon]). The project area also falls within designated essential fish habitat for spring-run and fall/late fall-run Chinook salmon. Species with a low potential for occurrence are not further evaluated in this initial study.

Table 8 Special-Status Fish and Wildlife Species Reviewed and Analyzed for Potential to Occur in the Project Area

Common Name *(Scientific Name)*	Federal Status	State Status	Associated Habitat	Likelihood of occurrence within the Project Area
Fish				
North American green sturgeon – Southern DPS *(Acipenser medirostris)*	T	NA	Adults typically migrate into the Sacramento and Feather rivers in late February, with spawning occurring between March and July. Requires cool freshwater for spawning in large cobble. Spawning takes place in deep, fast-moving water.	**Low.** No suitable spawning habitat exists within the project area. Adults and juveniles are unlikely to be present during construction. Potential spawning habitat (deep pools) occur downstream of the Thermalito Afterbay Outlet (6 miles downstream). Project area is within designated critical habitat.
Pacific lamprey *(Entosphenus tridentatus)*	NA	SSC	Adults typically migrate upstream between March and July in gravel-bottomed streams in low-gradient riffle habitat. Larvae (ammocoetes) drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrate for the next three to seven years.	**Moderate.** May be present during the ammocoete stage and may spawn within the project area reach.
Delta smelt (*Hypomesus transpacificus*)	T	E	Open surface waters in the Sacramento-San Joaquin Delta. Seasonally in Suisan Bay, Carquinez Strait, and San Pablo Bay.	**None.** The project area is not within the range and distribution of the species.

Common Name *(Scientific Name)*	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
River lamprey (*Lampetra ayresii*)	NA	SSC	The biology of river lamprey has not been well studied in California. Adult migration is believed to take place during winter months, with spawning taking place in tributaries during February and May (Moyle 2002).	**Moderate.** May be present during the ammocoete stage and may spawn within the project area reach.
Steelhead – Central Valley *(Oncorhynchus mykiss ssp. irideus)*	T	NA	Adults migrate upstream in the Feather River from August through April and spawn December through March. Preferred spawning habitat is in cool to cold perennial streams with high dissolved oxygen levels and fast-flowing water. Juveniles typically out-migrate in the spring and early summer as one-year-old fish.	**High.** Known to spawn in the upstream reach of the project area. The project area is within designated critical habitat.
Chinook salmon – Central Valley spring-run *(Oncorhynchus tshawytscha)*	T	T	Adults typically migrate upstream into Sacramento River tributaries (Feather River) from August through October to spawn in cool, clear, well-oxygenated water. Juveniles out-migrate soon after emergence as young-of-the-year (February–June) or remain in fresh water and out-migrate as yearlings (October-March).	**High.** This reach of the Feather River provides suitable spawning habitat for upstream migrating adults and rearing habitat for downstream migrating juveniles. The project area is within designated critical habitat.

Common Name ***(Scientific Name)***	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
Chinook salmon – Central Valley fall and late fall-run *(Oncorhynchus tshawytscha)*	NA	SSC	Adults typically migrate upstream into Sacramento River tributaries (Feather River) from October through February to spawn in cool, clear, well-oxygenated water. Juveniles typically rear and migrate downstream by mid-June.	**High.** This reach of the Feather River provides suitable spawning habitat for upstream migrating adults and rearing habitat for downstream migrating juveniles.
Sacramento splittail (*Pogonichthys macrolepidotus)*	NA	SSC	Inhabits lakes and backwater and pool habitats in rivers and streams. Spawning primarily occurs in March and April in flooded areas among submerged vegetation in sloughs and lower reaches of rivers (Moyle 2002).	**None.** The project area is not within the range and distribution of the species. Have been infrequently observed within shallow flooded vegetation in the lower Feather River up to Honcut Creek, approximately 22 miles downstream of project area (California Department of Water Resources 2008).
Amphibians				
Foothill yellow-legged frog *(Rana boylii)*	NA	E	Shallow streams and riffles with rocky substrate and open sunny banks and gravel bars along forests, chaparral, and woodlands. Cobble-sized substrate for egg-laying.	**None.** Potential suitable habitat is present but located downstream of their known range (Feather River and Upper Feather River Watershed clade). Also, unlikely to occur because of the abundance of predatory species including bullfrogs and other non-native fish species.

Common Name ***(Scientific Name)***	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
California red-legged frog *(Rana draytonii)*	T	SSC	Lowlands and foothills in or near permanent, slow moving, or standing deep ponds, pools, and streams with dense, overhanging emergent riparian vegetation.	**None.** Marginal breeding habitat exists within the project area. The project area is located within the species historic range, but well outside its known existing range. This species is believed to be extirpated from the Central Valley.
Western spadefoot (*Spea hammondii*)	NA	SSC	Found in seasonal wetlands, such as vernal pools in grasslands and occasionally in woodlands, scrub-lands, and other habitats. Breeding occurs in shallow temporary pools. Emerge from burrows to forage and breed following rains in the winter and spring.	**None.** No suitable habitat exists within the project area.
Birds				
Tricolored blackbird *(Agelaius tricolor)*	BCC	T	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support at least 50 pairs. Requires water at or near the nesting colony and large foraging areas, including marshes, pastures, agricultural wetlands, dairies, and feedlots, where insect prey is abundant. Breeding occurs from March through July.	**Low.** No suitable nesting habitat exists within the project area and this species was not observed during site surveys.

Common Name *(Scientific Name)*	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
Greater sandhill crane (*Antigone canadenis tabida*)	NA	T	Nests in wetland habitats in open terrain near shallow lakes or freshwater marshes in northeastern California. Winters in plains and valleys near bodies of fresh water within the Central Valley.	**None.** No suitable habitat exists within the project area.
Burrowing owl *(Athene cunicularia)*	BCC	SSC	Level, open, dry, heavily grazed, or low-stature grasslands or desert vegetation with available burrows and friable soils. Nests in small mammal burrows, pipes, or culverts. Breeds from March through August with peak activity in April and May.	**None.** No suitable habitat exists within the project area because of the lack of friable soils within the open areas. Not observed during site surveys.
Redhead *(Aythya Americana)*	NA	SSC	Prefers large lakes and areas of emergent vegetation. Nests in freshwater emergent wetlands where dense stands of cattails and tules are interspersed with areas of deep, open water.	**Moderate.** No suitable nesting habitat exists within the project area, but slow-moving open water habitat within the project area provides potential resting and foraging habitat.
Swainson's hawk *(Buteo swainsoni)*	NA	T	Breeds in stands with few trees in mature riparian forests. Forages in adjacent grasslands, irrigated pastures, and grain fields with scattered trees. Breeding occurs late March to late August, with peak activity late May through July.	**Low.** Large trees within the project area could provide potential nesting habitat, but no foraging habitat is located adjacent to the project area. Not observed during site surveys.

Common Name *(Scientific Name)*	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
Northern harrier *(Circus cyaneus)*	BCC	SSC	Open habitats such as grasslands, rangelands, agricultural lands, meadows, and emergent wetlands that provide adequate vegetative cover, prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts. Nests on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas. Breeds from April to September with peak activity in June and July.	**Low.** No suitable habitat exists within the project area. Not observed during site surveys.
Bald eagle (*Haliaeetus leucocephalus*)	DL, BCC	E, FP	Nests and roosts in large trees along large bodies of water or flowing streams with abundant fish. Breeds from January to July, with peak activity from March to June.	**Moderate.** The Feather River provides potential foraging habitat, and large trees along the river corridor provide potential nesting habitat. Closest known nest site is located 2.4 miles northeast of the project area.
Yellow-breasted chat *(Icteria virens)*	NA	SSC	Breeds in riparian habitats with dense understory vegetation, such as willow and blackberry. Breeds from early May to early August, with peak activity in June.	**Moderate.** May nest in riparian habitat along the river in the project area. Potential nesting habitat and foraging habitat present within the project area.
Loggerhead shrike *(Lanius ludovicianus)*	NA	SSC	Prefers open habitats with scattered trees, shrubs, posts, fences, and other perches. Found primarily in valley foothill and desert habitats. Breeds from March through August.	**Moderate.** Potential nesting and foraging habitat present within and adjacent to the project area. Not observed during site surveys.

Common Name *(Scientific Name)*	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
California black rail (*Laterallus jamaicensis coturniculus*)	NA	T, FP	Tidal salt marshes associated with heavy growth of pickleweed. Also occurs in brackish marshes of freshwater marshes at low elevations.	**None.** No suitable habitat exists within the project area.
American white pelican *(Pelecanus erythrorhynchos)*	BCC	SSC	Forages in shallow water on inland marshes, along lake or river edges, and in wetlands that contain fish. Nests at large fresh-water and saltwater lakes, usually on small islands or remote dikes.	**Moderate.** No suitable nesting habitat exists within the project area, but slow-moving open water habitat within the project area provides potential resting and foraging habitat.
Bank swallow (*Riparia riparia*)	NA	T	Nesting colonies occur on vertical banks or bluffs of friable soils (sand or sandy loam) suitable for burrowing, usually adjacent to water (rivers, streams, etc.). Breeds from early May through July, with peak activity from mid-May to mid-June.	**None.** No suitable nesting habitat exists within or adjacent to the project area. The nearest known nesting colony along the river is located approximately 10 miles downstream.
Yellow warbler *(Setophaga petechia)*	NA	SSC	Prefers open to moderate-density forests or woodlands with a dense shrub understory. Breeds from mid-April to early August, with peak activity in June.	**Moderate.** May nest in riparian habitat along the river in the project area. Potential nesting habitat and foraging habitat present within the project area.
Least Bell's vireo (*Vireo bellii pusillus*)	E	E	Structurally diverse woodlands along watercourses, including cottonwood-willow forests, oak woodlands, and mule fat scrub.	**None.** Although riparian habitat within the project area may provide suitable habitat, this species is considered to be extirpated from the region.

Common Name ***(Scientific Name)***	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
Invertebrates				
Conservancy fairy shrimp *(Branchinecta conservation)*	E	NA	Vernal pools and vernal pool-like habitats.	**None.** No suitable habitat exists within the project area.
Vernal pool fairy shrimp *(Branchinecta lynchi)*	T	NA	Valley and foothill grassland vernal pools and wetlands. Found in small clear-water sandstone depressions, grass swales, earth slumps or basalt depression pools.	**None.** No suitable habitat exists within the project area.
Monarch butterfly *(Danaus plexippus)*	C	NA	Found in areas with milkweed plant species during breeding season (spring and summer) and over winters along the California coast south of Humboldt County.	**Low.** Project area is outside wintering range and does not provide suitable breeding habitat.
Valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	T	NA	Elderberry shrubs with stems 1 inch or greater in diameter at ground level and associated with riparian forests that occur along rivers and streams. Adults emerge from the stems between March and June.	**Moderate.** Elderberry shrubs located within and adjacent to the project area provide suitable habitat for this species.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	E	NA	Valley and foothill grasslands, vernal pools, and wetlands. Inhabits vernal pools and swales with clear to highly turbid water. Found in pools that are wet long enough to support fish species.	**None.** No suitable habitat exists within the project area.

Common Name *(Scientific Name)*	Federal Status	State Status	Associated Habitat	Likelihood of occurrence within the Project Area
Mammals				
Pallid bat *(Antrozous pallidus)*	NA	SSC	Utilizes a variety of habitats including grasslands, shrublands, woodlands, and forests for foraging. Roosts in caves, mines, crevices, hollow trees, and buildings. Young are born from April through July and weaned in July and August.	**Low.** Hollow cavities within trees in the project area may provide potential day roosting habitat.
Ring-tailed cat *(Bassariscus astutus)*	NA	FP	Riparian habitats and associated brush stands. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows or woodrat nests. Early pup-rearing season ranges from May 1 through June 15.	**Low.** The narrow bands of riparian habitat within the project area does not provide suitable cover or denning habitat for this species.
Townsend's big-eared bat *(Corynorhinus townsendii)*	NA	SSC	Prefers mesic habitat where it forages along forest edges, and roosts in a variety of cave or cave-like situations including human-made structures. Young are born in May and June and weaned in August.	**Low.** No day roosting habitat is present within the project area. May forage within the project area if day roosting habitat is present in the project vicinity.
Western mastiff bat *(Eumops perotis)*	NA	SSC	Arid to semi-arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts on or in buildings, crevices in cliffs, and in	**Low.** No day roosting habitat is present within project area. May forage within the project area if roosting habitat is present in the project vicinity.

Common Name ***(Scientific Name)***	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
			tunnels. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 10 feet. Young are born from early April through August or September.	
Western red bat *(Lasiurus blossevilli)*	NA	SSC	Roosts primarily in trees, less often in shrubs. Prefers riparian forest and woodland sites that includes trees for roosting and adjacent open areas for foraging. Young are born from late May through early July.	**Moderate.** Riparian vegetation within the project area may provide suitable roosting habitat for this species.
American badger *(Taxidea taxus)*	NA	SSC	Prefers drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Litters typically born in March and April.	**Low.** No suitable habitat exists within the project area because of the lack of friable soils within the drier portions of the project area.
Reptiles				
Western pond turtle *(Emys marmorata)*	NA	SSC	In or near slow-moving water (ponds, marshes, rivers, streams, ditches) with abundant emergent grasses, shrubs, and aquatic vegetation. Associated with basking sites, such as partially	**Moderate.** Aquatic areas with slow moving or ponded water within the project area provide potential suitable habitat.

Common Name *(Scientific Name)*	**Federal Status**	**State Status**	**Associated Habitat**	**Likelihood of occurrence within the Project Area**
			submerged logs, large rocks, or open mud banks with suitable adjacent upland habitat (sandy banks or grassy open fields) for nesting. Eggs are laid from March to August.	
Coast horned lizard (*Phrynosoma blainvillii)*	NA	SSC	Occurs in the Sierra Nevada foothills (up to 4,000-foot elevation) from Butte County to Kern County and throughout the central and southern California coast. Typically found in open areas along sandy washes or areas with sand soils with scattered shrubs/brush. Sandy soils are used for burying.	**None.** No suitable habitat exists within the project area. In 2002, one adult was documented on Table Mountain, located approximately 8.0 miles north of the project area.
Giant garter snake *(Thamnophis gigas)*	T	T	Sloughs, canals, and other small waterways where there is a prey base of small fish and amphibians. Requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	**None.** No suitable habitat exists within the project area.

Notes: BCC = Federal Bird Species of Conservation Concern; C = candidate; DL = delisted; DPS = distinct population segment; E = endangered; FP = State Fully Protected; NA = not applicable; SC = species of concern; SSC = California Species of Special Concern; T = threatened.

Sources: California Department of Fish and Wildlife 2022a, 2022b, 2022c; California Department of Water Resources 2008: 4.4-18; Moyle 2002; U.S. Fish and Wildlife Service 2022; Zeiner et al. 1988a, 1988b, 1988c.

Table 9 Special-Status Plant Species Reviewed and Analyzed for Potential to Occur in the Project Area

Common Name *(Scientific Name)*	Federal Status[1]	State Status[2]	CNPS Rank[3]	Associated Habitat	Flowering Period	Likelihood of occurrence within the Project Area
Henderson's bent grass *(Agrostis hendersonii)*	NA	NA	3.2	Valley and foothill grassland, vernal pools	Apr–Jun	**Low.** Vernal pools and seeps do not occur within the project area.
Jepson's onion *(Allium jepsonii)*	NA	NA	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest	Apr–Aug	**Low.** Specialized serpentine soils required by this species do not occur within the project area.
Sanborn's onion *(Allium sanbornii var. sanbornii)*	NA	NA	4.2	Chaparral, cismontane woodland, lower montane coniferous forest	May–Sep	**Low.** Occurs on serpentine soils, which are not found within the project area.
True's manzanita *(Arctostaphylos mewukka ssp. Truei)*	NA	NA	4.2	Chaparral, lower montane coniferous forest	Feb–Jul	**Low.** Species associated with higher elevations.
depauperate milk-vetch *(Astragalus pauperculus)*	NA	NA	4.3	Chaparral, cismontane woodland, valley, and foothill grassland	Mar–Jun	**Low.** Occurs on mesic hardpan soils, which are not present within the project area.
Mexican mosquito fern *(Azolla microphylla)*	NA	NA	4.2	Marshes and swamps	Aug	**Moderate.** May occur in backwater areas, but this habitat is uncommon within the project area. This species was not observed during surveys.
big-scale balsamroot *(Balsamorhiza macrolepis)*	NA	NA	1B.2	Chaparral, cismontane woodland, valley and foothill grassland	Mar–Jun	**Low.** Occurs on serpentine soils, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
valley brodiaea *(Brodiaea rosea* ssp. *Vallicola)*	NA	NA	4.2	Valley and foothill grassland, vernal pools	Apr–May (Jun)[4]	**High.** Species observed nearby in habitats similar to those found within the project area. This species was not observed during surveys.
Sierra foothills brodiaea *(Brodiaea sierrae)*	NA	NA	4.3	Chaparral, cismontane woodland, lower montane coniferous forest	May–Aug	**Low.** Occurs on serpentine soils, which are not found within the project area.
thread-leaved beakseed *(Bulbostylis capillaris)*	NA	NA	4.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest	Jun–Aug	**Low.** Species associated with higher elevations.
Butte County calycadenia *(Calycadenia oppositifolia*)	NA	NA	4.2	Chaparral, cismontane woodland, lower montane coniferous forest, meadows, and seeps, valley, and foothill grassland	Apr–Jul	**High.** Species observed nearby in habitats similar to those found in the project area. This species was not observed during surveys.
dissected-leaved toothwort *(Cardamine pachystigma* var. *dissectifolia)*	NA	NA	1B.2	Chaparral, lower montane coniferous forest	Feb–May	**Low.** Species typically occurs only on serpentine soils, which are not found within the project area.
pink creamsacs (*Castilleja* rubicundula var. rubicundula)	NA	NA	1B.2	Chaparral, cismontane woodland, meadows, and seeps, valley, and foothill grassland	Apr–Jun	**Low.** Species typically occurs only on serpentine soils, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
Brandegee's clarkia *(Clarkia biloba* ssp. *Brandegeeae*)	NA	NA	4.2	Chaparral, cismontane woodland, lower montane coniferous forest	May–Jul	**Moderate.** Species documented in similar habitats nearby, but at slightly higher elevation. This species was not observed during surveys.
white-stemmed clarkia *(Clarkia gracilis* ssp. *Albicaulis*)	NA	NA	1B.2	Chaparral, cismontane woodland	May–Jul	**Low.** Species typically occurs on serpentine soils, which are not found within the project area.
golden-anthered clarkia *(Clarkia mildrediae* ssp. *Lutescens)*	NA	NA	4.2	Cismontane woodland, lower montane coniferous forest	Jun–Aug	**High.** Species observed nearby in habitats similar to those found within the project area. This species was not observed during surveys.
Mildred's clarkia *(Clarkia mildrediae* ssp. *Mildrediae)*	NA	NA	1B.3	Cismontane woodland, lower montane coniferous forest	May–Aug	**Moderate.** Species documented in similar habitats nearby, but at slightly higher elevation. This species was not observed during surveys.
Mosquin's clarkia *(Clarkia mosquinii)*	NA	NA	1B.1	Cismontane woodland, lower montane coniferous forest	May–Jul (Sep)	**Moderate.** Species documented in similar habitats nearby, but at slightly higher elevation. This species was not observed during surveys.
marsh claytonia *(Claytonia palustris*)	NA	NA	4.3	Marshes and swamps, meadows and seeps,	May–Oct	**Low.** Species associated with higher elevations.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
				upper montane coniferous forest		
streambank spring beauty *(Claytonia parviflora* ssp. *Grandiflora*)	NA	NA	4.2	Cismontane woodland	Feb–May	**High.** Occurs in habitats similar to those found within the project area. This species was not observed during surveys.
California lady's-slipper *(Cypripedium californicum)*	NA	NA	4.2	Bogs and fens, lower montane coniferous forest	Apr–Aug (Sep)	**Low.** Species typically occurs only on serpentine soils, which are not found within the project area.
clustered lady's-slipper *(Cypripedium fasciculatum)*	NA	NA	4.2	Lower montane coniferous forest, North Coast coniferous forest	Mar–Aug	**Low.** Species typically occurs only on serpentine soils, which are not found within the project area.
recurved larkspur *(Delphinium recurvatum)*	NA	NA	1B.2	Chenopod scrub, cismontane woodland, valley, and foothill grassland	Mar–Jun	**Low.** Not seen in Butte County since 1937.
Ahart's buckwheat *(Eriogonum umbellatum* var. *ahartii)*	NA	NA	1B.2	Chaparral, cismontane woodland	Jun–Sep	**Low.** Species associated with higher elevations.
fern-leaved monkeyflower *(Erythranthe filicifolia)*	NA	NA	1B.2	Chaparral, lower montane coniferous forest, meadows, and seeps	Apr–Jun	**Low.** Species grows in granite and basalt seams, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
shield-bracted monkeyflower *(Erythranthe glaucescens)*	NA	NA	4.3	Chaparral, cismontane woodland, lower montane coniferous forest, valley, and foothill grassland	Feb–Aug (Sep)	**High.** Occurs in habitats similar to those found within the project area. This species was not observed during surveys.
small-flowered monkeyflower *(Erythranthe inconspicua)*	NA	NA	4.3	Chaparral, cismontane woodland, lower montane coniferous forest	May–Jun	**High.** Occurs in habitats similar to those found within the project area. This species was not observed during surveys.
Hoover's spurge *(Euphorbia hooveri)*	FT	NA	1B.2	Vernal pools	Jul–Sep (Oct)	**Low.** Species associated with vernal pools, which are not found within the project area.
Butte County fritillary *(Fritillaria eastwoodiae*)	NA	NA	3.2	Chaparral, cismontane woodland, lower montane coniferous forest	Mar–Jun	**Moderate.** Nearby populations have been documented and potentially suitable habitat exists within the project area. This species was not observed during surveys.
adobe-lily *(Fritillaria pluriflora)*	NA	NA	1B.2	Chaparral, cismontane woodland, valley, and foothill grassland	Feb–Apr	**Low.** Species occurs in adobe clays, which are not found within the project area.
serpentine bluecup *(Githopsis pulchella* ssp. *Serpentinicola)*	NA	NA	4.3	Cismontane woodland	May–Jun	**Low.** Species associated with higher elevations.
hogwallow starfish *(Hesperevax caulescens)*	NA	NA	4.2	Valley and foothill grassland, vernal pools	Mar–Jun	**Low.** Species associated with vernal pools, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
woolly rose-mallow *(Hibiscus lasiocarpos* var. *occidentalis)*	NA	NA	1B.2	Marshes and swamps	Jun–Sep	**Low.** Species occurs in marshy areas on the Valley floor, and this environment is not found within the project area
Ahart's dwarf rush *(Juncus leiospermus* var. *ahartii*)	NA	NA	1B.2	Valley and foothill grassland	Mar–May	**Low.** Species associated with vernal pools, which are not found within the project area.
Red Bluff dwarf rush *(Juncus leiospermus* var. *leiospermus)*	NA	NA	1B.1	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools	Mar–Jun	**Low.** Species associated with vernal pools, which are not found within the project area.
Red Bluff dwarf rush *(Layia septentrionalis)*	NA	NA	1B.2	Chaparral, cismontane woodland, valley, and foothill grassland	Apr–May	**Low.** Species only documented in foothills on the Western side of the Sacramento Valley.
bristly leptosiphon *(Leptosiphon acicularis)*	NA	NA	4.2	Chaparral, cismontane woodland, coastal prairie, valley, and foothill grassland	Apr–Jul	**High.** Occurs in habitats similar to those found within the project area. This species was not observed during surveys.
serpentine leptosiphon *(Leptosiphon ambiguous*)	NA	NA	4.2	Cismontane woodland, coastal scrub, valley, and foothill grassland	Mar–Jun	**Low.** Species typically occurs only on serpentine soils, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
Humboldt lily *(Lilium humboldtii* ssp. *Humboldtii*)	NA	NA	4.2	Chaparral, cismontane woodland, lower montane coniferous forest	May–Jul (Aug)	**Moderate.** Populations have been documented nearby and potentially suitable habitat exists within the project area. This species was not observed during surveys.
Butte County meadowfoam *(Limnanthes floccosa* ssp. *Californica)*	FE	SE	1B.1	Valley and foothill grassland, vernal pools	Mar–May	**Low.** Species associated with vernal pools, which are not found within the project area.
woolly meadowfoam *(Limnanthes floccosa* ssp. *Floccose*)	NA	NA	4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools	Mar–May (Jun)	**Low.** Species associated with vernal pools, which are not found within the project area.
sylvan microseris *(Microseris sylvatica)*	NA	NA	4.2	Chaparral, cismontane woodland, great basin scrub, pinyon and juniper woodland, valley, and foothill grassland	Mar–Jun	**Moderate.** Species occurs in habitats similar to those found within the project area, but at slightly higher elevation. This species was not observed during surveys.
veiny monardella *(Monardella venosa)*	NA	NA	1B.1	Cismontane woodland, valley, and foothill grassland	May–Jul	**Low.** Documented only in a few locations on highly specialized clay substrates.
Tehama navarretia *(Navarretia heterandra)*	NA	NA	4.3	Valley and foothill grassland, vernal pools	Apr–Jun	**High.** Species documented nearby and occurs in habitats similar to those found within the project area. This species was not observed during surveys.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
slender Orcutt grass *(Orcuttia tenuis)*	FT	SE	1B.1	Vernal pools	May–Sep (Oct)	**Low.** Species associated with vernal pools, which are not found within the project area.
Lewis Rose's ragwort *(Packera eurycephala* var. *lewisrosei)*	NA	NA	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest	Mar–Jul (Aug-Sep)	**High.** Species documented nearby and occurs in habitats similar to those found within the project area. This species was not observed during surveys.
Ahart's paronychia *(Paronychia ahartii)*	NA	NA	1B.1	Cismontane woodland, valley and foothill grassland, vernal pools	Feb–Jun	**Low.** Species associated with vernal pools, which are not found within the project area.
Bacigalupi's yampah *(Perideridia bacigalupii)*	NA	NA	4.2	Chaparral, lower montane coniferous forest	Jun–Aug	**Low.** Species associated with higher elevations.
Sierra blue grass *(Poa sierrae)*	NA	NA	1B.3	Lower montane coniferous forest	Apr–Jul	**Low.** Species associated with higher elevations.
Bidwell's knotweed *(Polygonum bidwelliae)*	NA	NA	4.3	Chaparral, cismontane woodland, valley, and foothill grassland	Apr–Jul	**High.** Species documented nearby and occurs in habitats similar to those found within the project area. This species was not observed during surveys.
Sanford's arrowhead *(Sagittaria sanfordii)*	NA	NA	1B.2	Marshes and swamps	May–Oct (Nov)	**Moderate.** May occur in back-water areas, but this habitat is uncommon within the project area. This species was not observed during surveys.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
giant checkerbloom *(Sidalcea gigantea)*	NA	NA	4.3	Lower montane coniferous forest, upper montane coniferous forest	Jul–Oct	**Low.** Species associated with higher elevations.
Butte County checkerbloom *(Sidalcea robusta)*	NA	NA	1B.2	Chaparral, cismontane woodland	Apr–Jun	**Moderate.** Populations have been documented nearby and potentially suitable habitat exists within the project area. This species was not observed during surveys.
obtuse starwort *(Stellaria obtuse)*	NA	NA	4.3	Lower montane coniferous forest, riparian woodland, upper montane coniferous forest	May–Sep (Oct)	**Moderate.** Species associated with higher elevations. This species was not observed during surveys.
sickle-fruit jewelflower (*Streptanthus drepanoides*)	NA	NA	4.3	Chaparral, cismontane woodland, lower montane coniferous forest	Apr–Jun	**High.** Species documented nearby and occurs in habitats similar to those found within the project area. This species was not observed during surveys.
long-fruit jewelflower *(Streptanthus longisiliquus)*	NA	NA	4.3	Cismontane woodland, lower montane coniferous forest	Apr–Sep	**Low.** Species associated with higher elevations.
Butte County golden clover *(Trifolium jokerstii)*	NA	NA	1B.2	Valley and foothill grassland, vernal pools	Mar–May	**Low.** Species associated with vernal pools, which are not found within the project area.

Common Name *(Scientific Name)*	**Federal Status[1]**	**State Status[2]**	**CNPS Rank[3]**	**Associated Habitat**	**Flowering Period**	**Likelihood of occurrence within the Project Area**
Greene's tuctoria *(Tuctoria greenei)*	FE	SR	1B.1	Vernal pools	May–Jul (Sep)	**Low.** Species associated with vernal pools, which are not found within the project area.
felt-leaved violet *(Viola tomentosa)*	NA	NA	4.2	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest	(Apr) May–Oct	**Low.** Species associated with higher elevations.
Brazilian watermeal *(Wolffia brasiliensis*)	NA	NA	2B.3	Marshes and swamps	Apr–Dec	**Moderate.** May occur in backwater areas, but this habitat is uncommon within the project area. This species was not observed during surveys.

Notes:

[1] FE = Federal endangered; FT = Federal threatened.

[2] SE =State endangered; SR - State rare.

[3] CNPS: List 2 - plants rare, threatened, or endangered in California but more common elsewhere; List 3 - plants about which more information is needed; List 4 - plants of limited distribution.

CNPS threat codes: 0.1: Seriously endangered in California; 0.2: Fairly endangered in California; 0.3: Not very endangered in California.

[4] Flowering period may extend into this month in some years.

NA = No listing status.

3.5.2 Discussion

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?

Fisheries

Less than Significant with Mitigation Incorporated. The project area provides suitable habitat for both juvenile and adult special-status fish species, including Central Valley fall/late-fall-run Chinook salmon, spring-run Chinook salmon, Central Valley steelhead, Pacific lamprey (*Entosphenus tridentatus*), and river lamprey (*Lampetra ayresii*). The project area is also located within federal-designated critical habit for spring-run Chinook salmon, Central Valley steelhead, and green sturgeon. Proposed instream construction activities have the potential to affect special-status fish species and their designated critical habitat within and downstream of the project area through direct harm, changes in water quality, and habitat modification.

Direct Harm

Proposed construction activities within the Feather River cannot be timed to avoid all life stages of special-status fish species because of the year-round presence of at least one life stage. To protect the least mobile fish life stage within the project area, in-water work would be restricted to take place outside the time when incubating salmonid eggs and larvae are likely to be present, which is between October and May. By July, juveniles would be larger in size and mobile, and the majority would have moved downstream out of the project area.

Proposed construction activities within the river (e.g., placement of gravel, excavation, equipment access) have the potential to directly displace, injure, or kill both adult and juvenile special-status fish species, as well as interfere with their movement. The placement of spawning gravel and excavation of deposited material would require equipment to work within the river, and haul trucks would transport imported and excavated material to and from the site.

Adult fish and lamprey likely would move out of the area before or immediately after equipment begins work in the water. The potential for direct injury or death would be higher for juvenile fish because they are less mobile than adults. Juvenile spring-run Chinook salmon will have migrated out of the project area by the start of project construction. However, juvenile Central Valley steelhead and other special-status fish and lamprey species could be directly affected by proposed construction activities within the river. Implementing the avoidance and minimization measures included in Mitigation Measure BIO-1 would reduce these potential short-term impacts to less than significant.

Mitigation Measure BIO-1: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species

To minimize injury or mortality to adult or juvenile fish species, the contractor shall implement the following measures:

- In-water construction activities will be restricted to occur between July 1 and August 31.
- Before gravel is placed in a stream margin for the first time, DWR staff will beach seine the margins and relocate any juveniles downstream of the project boundary.
- Operation of equipment and placement of materials within the channel shall be conducted slowly and deliberately to alert and allow adult and juvenile fish to move away from the work area. When first entering or crossing the channel each day, a construction monitor shall walk ahead of the equipment working to alert any fish and allow them to move from the work area.
- If water is drafted from the Feather River for construction purposes, water pump intakes shall be screened in compliance with California Department of Fish and Wildlife (CDFW) and National Marine Fisheries Service salmonid-screening specifications.

<u>Indirect Harm – Water Quality</u>

Proposed construction activities on the bank and within the Feather River would cause temporary increases in turbidity and suspended sediment as a result of placing spawning gravel within the river, stirring fine sediments within the river during construction, and the delivery of fine sediments from

the riverbank during construction and the first year following construction. This increase in turbidity and suspended sediment potentially could affect spawning habitat or feeding or holding behavior of special-status and resident fish species downstream of the project area.

The project area is located within and upstream of potential spawning habitat for Central Valley fall/late-fall and spring-run Chinook salmon and Central Valley steelhead. Suspended sediment from proposed construction activities may settle on downstream potential spawning habitat. But the proposed in-water work window would be restricted to take place outside the time of year when incubating salmonid eggs and larvae could be present. Embryos and alevins are particularly susceptible to impacts from increased turbidity during their incubation. A high percentage of fines within the channel substrate can result in reduced oxygen levels within redds, which could result in the smothering of eggs or preventing young from emerging. Increases in turbidity could also temporarily affect adult and juvenile fish species holding and rearing downstream of the project area. Increases in turbidity could temporarily disrupt juvenile behavior or cause juveniles to be temporarily displaced from their habitat, decreasing their foraging efficiency, and increasing their vulnerability to predation. Juvenile and adult anadromous fish need clear water to see their prey, which consists primarily of aquatic insects and other macroinvertebrates. These aquatic insects and other macroinvertebrates feed on suspended organic particles, making it essential to have balance between water clarity and turbidity caused by suspended organic particles (Madej 2004). In addition, elevated suspended sediment can also damage gill tissue, causing asphyxiation in both juveniles and adult fish.

It is anticipated that adult and most juvenile salmonids would avoid sediment plumes generated by proposed activities within the river; however, some juvenile salmonids may be using stream bottom substrate and bank areas as cover and, therefore, would be more vulnerable to increases in suspended sediment. Implementing the erosion and sediment control measures included in the SWPPP (refer to Section 2.5.4, “Prepare a Stormwater Pollution Prevention Plan”) would minimize this impact. Construction activities would also comply with the sediment control measures and water quality monitoring required pursuant to a federal Clean Water Act Section 401 certification issued by the CVRWQCB, as well as a CDFW Lake and Streambed Alteration Agreement. Therefore, potential impacts would be minimized to less than significant.

Proposed construction activities would require the use of power equipment and heavy equipment to work within and immediately adjacent to the Feather River. This need creates a risk of hazardous materials (such as fuel, lubricants, or hydraulic fluids) accidentally leaking or spilling into the river. A hazardous leak or spill could have deleterious effects on all life stages of fish species and their habitat and would be potentially significant. Incubating fry would be at the greatest risk, whereas juvenile and adult fish exhibit a greater level of mobility and greater ability to avoid potentially hazardous materials. But the majority of construction activities within and adjacent to the Feather River would take place outside the spawning and incubation period for special-status salmonid species. In addition, implementing measures to minimize the risk of accidental leaks or spills of hazardous materials included in the spill prevention and control plan (refer to Section 2.5.5, "Prepare a Spill Prevention and Control Plan") would reduce this impact to less than significant.

Birds

Less than Significant with Mitigation Incorporated. Special-status bird species, including the American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), loggerhead shrike (*Lanius ludovicianus*), redhead (*Aythya Americana*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*), may nest or forage within or in the vicinity of the project area. Other nesting migratory birds protected under the Migratory Bird Treaty Act and Fish and Game 3503 and 3503.5 may also nest or forage within or in the vicinity of the project area. Surveys were conducted to identify and document any active and pre-existing nests within and adjacent to the project area. No active nests were identified, but pre-existing raptor and migratory bird nests were identified adjacent to the project area. Nesting season typically extends from February 1 through August 31 for migratory birds and other birds of prey. Existing access roads would be utilized, and new construction roads and haul routes were designed to minimize vegetation removal where feasible. No large trees are anticipated to be removed, and riparian vegetation removal is anticipated to be minimal and restricted to Feather River access points. But proposed construction activities are scheduled to begin during the nesting season and could impede the use of an established nest site or result in the inadvertent take of an active nest, nest abandonment, or disruption of nesting behavior, resulting in a significant impact. Implementing the avoidance work window, preconstruction nesting bird surveys, and protective measures included in Mitigation Measures BIO-2, BIO-3, and BIO-4 would reduce this potential impact to less than significant.

Mitigation Measure BIO-2: Implement an Avoidance Work Window and Conduct Preconstruction Nesting Bird Surveys

- Native vegetation disturbance and removal will be minimized to the greatest extent feasible.
- The nesting season for most bird species is typically from February 1 through August 31. If vegetation removal is scheduled during the nesting season, a qualified biologist shall survey the vegetation proposed for removal to confirm no active nests are present within the vegetation proposed for removal.
- Within seven days prior to construction activities scheduled between February 1 and August 31, a survey for active bird nests shall be conducted. The survey shall include an appropriate buffer around proposed project activities that accounts for visual and auditory disturbance of the project activities and monitoring during project activities. If an active nest is not identified, no further action is needed.

Mitigation Measure BIO-3: Establish Nest Protection Buffers for Active Bird Nests

- If an active nest is found, disturbance and destruction of the nest shall be avoided by implementing avoidance measures, such as delaying work until nesting is complete, establishing species appropriate buffers (minimum starting setback of 100 feet for passerines, 500 feet for raptors, and 450 feet for federal Endangered Species Act-listed species), and providing a designated biologist access to nest monitoring during project activities. If an active nest of a California Endangered Species Act-listed species is observed, all work within 500 feet of the nest shall be suspended and CDFW consulted. If the nest cannot be avoided, consultation with CDFW regarding appropriate action would occur. If a lapse in project-related work of seven days or longer occurs, another focused survey and further regulatory consultation may be required before project work can be reinitiated.

- To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the

qualified biologist that high-visibility material would not attract predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.

Mitigation Measure BIO-4: Monitor Active Nests within Nest Protection Buffer

- If project activities must occur within established buffer zones, a qualified biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities.
- If birds are showing signs of distress within the established buffer(s) during work activities, work activities shall be modified, or the buffer(s) shall be expanded, to prevent birds from abandoning their nest.
- At any time, the biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to nest abandonment. Work shall not resume until corrective measures have been taken, or it is determined that continued activity would not adversely affect nest success.

Project activities would occur in foraging habitat for bird species but is not anticipated to adversely affect these species. Construction disturbance would be temporary, and there are alternate sources of foraging habitat available within the project vicinity. Therefore, impacts to special-status foraging birds would be less than significant.

Invertebrates

Less than Significant with Mitigation Incorporated. Valley elderberry longhorn beetles (VELB) are assumed to be present in elderberry shrubs with stems 1 inch or greater in diameter at ground level. Surveys were conducted to identify and map elderberry shrubs within and adjacent to the project area. Elderberry shrubs were identified adjacent to the project area, with one elderberry shrub located immediately adjacent to the proposed terrestrial fill area at the outlet of the Bedrock Park Side Channel. The construction access roads were designed to avoid numerous elderberry

shrubs and minimize the proposed project's potential impact on the VELB. Although no elderberry shrubs are proposed for removal or trimming, any unanticipated trimming or removal during vegetation clearing and grading would have the potential for direct take of this species. The VELB may also be indirectly affected by accumulation of dust on elderberry shrubs, resulting in a potentially significant impact. Implementing environmental commitments incorporated into the proposed project, which include providing environmental awareness training and defining work area limits; the dust control measures included in Mitigation Measure AQ-1; and the VELB protection measures included in Mitigation Measure BIO-5 would reduce the level of impacts to less than significant.

Mitigation Measure AQ-1: Implement BCAQMD Best Practices to Minimize Air Quality Impacts

Refer to Section 3.4, "Air Quality," for the full text of this mitigation measure.

Mitigation Measure BIO-5: Implement Protection Measures for the Valley Elderberry Longhorn Beetle

- As much as feasible, all activities adjacent to elderberry shrubs will be conducted outside the flight season of the VELB (March through July).
- All suitable elderberry shrubs (shrubs with stem 1 inch or greater in diameter at ground level) will be avoided.
- Elderberry shrubs within and immediately adjacent to the project area will be temporarily fenced, as needed, with guidance from the designated biologist and designated as biologically sensitive areas.
- A qualified biologist will monitor the work area to assure that all avoidance and minimization measures are implemented.
- Herbicides will not be used within the dripline of the elderberry shrub. Insecticides will not be used within 98 feet of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.
- Mechanical weed removal within the dripline of the elderberry shrub will be limited to the season when adults are not active (August through February) and will avoid damaging the elderberry.

Mammals

Less than Significant with Mitigation Incorporated. Project construction would occur during daylight hours and no nighttime lighting would be used, so no impacts to night roosting and foraging behavior of special-status bat species are anticipated. No large trees are anticipated to be removed and riparian vegetation removal is anticipated to be minimal and restricted to Feather River access points, so no impacts to potential day roosting habitat are anticipated. Although unlikely, removal of small trees along the access routes could result in injury or direct take of the special-status western red bat, which has the potential to roost in the bark or foliage of riparian trees. If this injury or direct take were to occur, impacts would be potentially significant. Implementing environmental commitments incorporated into the proposed project, which include worker environmental awareness training and work area limits, as well as implementing the roosting bat protection measures included in Mitigation Measures BIO-6, would reduce these potential impacts to less than significant.

Mitigation Measure BIO-6: If Removal of Trees that provide Suitable Roosting Habitat for Bats is Necessary, Conduct Preconstruction Surveys for Roosting Bats

- A qualified biologist shall conduct preconstruction surveys of all trees proposed for removal if they provide suitable roosting habitat for the roosting bats. Surveys shall be conducted for the presence of individuals and maternity roosts within 24 hours prior to the start of construction activities.
- If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.
- If a tree is identified as providing potential day roosting habitat for bats, either the tree shall be avoided or CDFW shall be consulted to determine effective exclusion or protection measures to be implemented prior to tree removal.

Reptiles

Less than Significant with Mitigation Incorporated. Western pond turtles (*Emys marmorata*) have the potential to be present within slow-moving or ponded aquatic areas of the project area. Proposed construction activities within these areas could impact western pond turtles through

direct take if present during these activities or could interfere with their movement, resulting in a potentially significant impact. Implementing the precautionary measures included in Mitigation Measure BIO-1, which states operation of equipment and placement of materials within the channel shall be conducted slowly and deliberately and when first entering or crossing the channel each day, and states that a construction monitor shall walk ahead of the equipment working to alert any fish and allow them to move from the work area, would be protective of western pond turtles and reduce this potential impact to less than significant.

Western pond turtles also have the potential to be in upland areas up to approximately 325 feet from the water's edge during the nesting season (March through August). Although it is unlikely that the dredge tailings in upland areas provide suitable nesting habitat for this species, if a nest was destroyed during construction activities, impacts would be potentially significant. Implementation of the pre-construction surveys for turtle nests and protective measures included in Mitigation Measure BIO-7 would reduce this potential impact to less than significant.

> ***Mitigation Measure BIO-7:*** **Conduct pre-construction surveys for western pond turtle in upland habitat**
>
> A qualified biologist shall conduct pre-construction visual surveys for western pond turtle in suitable upland ~~and aquatic~~ habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of two weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work. If western pond turtles or evidence of western pond turtle nesting activity are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until it is determined that the western pond turtle or active nest will not be harmed or protective measures are implemented. Protective measures may include moving the western pond turtle to a suitable location outside of the project area or establishing a nest buffer, respectively, in consultation with CDFW.

Plants

Less than Significant with Mitigation Incorporated. Construction of the proposed project would have the potential to adversely affect special-status plant species that have the potential to occur in the project area (see Table 9). Although none of the special-status plant species listed in Table 9 were

observed during surveys of the project area, potentially suitable habitat for several of these species exists within the project area, and many of these species have been documented in nearby areas. If proposed construction activities were to adversely affect populations of these special-status species, impacts would be potentially significant. Implementing the preconstruction surveys and avoidance measures included in Mitigation Measure BIO-8, and, if necessary, the compensatory measures included in Mitigation Measure BIO-9, would reduce these potential impacts to less than significant.

Mitigation Measure BIO-8: Conduct Focused Surveys for Special-status Plants and Avoid Impacts, where Feasible

To avoid adverse effects from construction activities on special-status plants, the following measures shall be implemented before the start of ground-disturbing activities:

- Conduct preconstruction special-status plant surveys during the blooming periods. A qualified botanist will conduct surveys for special-status plant species with potential to occur in appropriate habitat within the construction footprint. Surveys will follow the most current applicable guidelines established by CDFW and will be conducted at the appropriate time of year when the target species is clearly identifiable. If no special-status plants are found during focused surveys, no further action would be required.
- If special-status plants are found, the special-status plant and occupied habitat in the project area will be marked for avoidance during construction activities. Marking will include a minimum habitat buffer for each occurrence of 25 feet. The construction contractor will avoid these areas where feasible.

Mitigation Measure BIO-9: If Avoidance of Special-Status Plant Species is Infeasible, Develop and Implement a Compensatory Mitigation Plan

- If habitat occupied by special-status plants cannot be avoided during construction, an appropriate and feasible mitigation plan to compensate for direct loss of special-status plants will be developed and provided to CDFW for approval. The plan will detail appropriate compensatory measures determined through consultation with

CDFW. Methods may include salvaging and transplanting individual plants, collecting the seeds of affected plants, or collecting and translocating seed- and rhizome-containing mud. Compensation also may include preserving in perpetuity other known populations of this species in the project vicinity at ratios determined in consultation with CDFW. The mitigation plan will be developed in consultation with and approved by CDFW before construction activities begin in areas containing special-status plant species.

Non-native plant species are abundant within and around the project area, so transport of construction vehicles and equipment, as well as ground-disturbing activities, would have the potential to transfer pathogens and invasive plant propagules within and outside of the project area (California Invasive Plant Council 2022). The introduction or spread of plant pathogens or invasive plant propagules could adversely affect special-status plant species and result in a potentially significant impact. Implementing the preventative measures included in Mitigation Measure BIO-10 would reduce this potential impact to less than significant.

Mitigation Measure BIO-10: Prevent the Introduction of Plant Pathogens and Invasive Plant Species

The contractor shall implement the following BMPs, to the extent feasible, to prevent the introduction of invasive plant species:

- All heavy equipment shall be thoroughly cleaned prior to mobilization on site to remove any soil, weed seeds, and plant parts to reduce the importation and spread of plant pathogens or invasive exotic plant species. Only certified weed-free straw shall be used for erosion control or other purposes to reduce the importation and spread of invasive exotic plant species.
- All revegetation materials (e.g., mulches, seed mixtures) shall be certified weed-free and come from locally adapted native plant materials to the extent practicable.

Special-status plants could also be indirectly affected by construction activities if habitat quality is degraded through the accidental release of fuels, oil, or contaminants, or unintended erosion or sedimentation. Implementing the SWPPP and the spill prevention and control plan

discussed in Sections 2.5.4 and 2.5.5, respectively, would minimize or avoid these potential effects and impacts would be less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?

Less than Significant. Riparian habitat is designated as a sensitive natural community because of its declining trend and high value to wildlife and hydrologic function. Shaded riverine aquatic habitat provided by riparian vegetation provides food and cover for fish species. Construction of the proposed new access roads would require the removal of a thin corridor of riparian vegetation along the river's edge, and excavation of the Bedrock Park Side Channel would require the removal of a minimal amount of riparian vegetation lining the entrance and outlet. Disturbance of these areas would be minimal (approximately 0.07 acre) and temporary, as the project description and environmental commitments include stabilizing disturbed areas and planting willows at the river's edge of the access roads. In addition, natural recruitment of this riparian vegetation is anticipated to occur. Therefore, impacts to riparian habitat would be less than significant.

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?

Less than Significant. An aquatic resources delineation was conducted to identify potential jurisdictional wetlands and other waters of the U.S. and State within the project area. The Feather River and its banks within the project footprint were considered other waters of the U.S. and State, consisting of approximately 7.6 acres. Of this acreage, less than 0.1 acre may be considered riparian wetland. The aquatic resources delineation has not yet been finalized under USACE review. If the less than 0.1 acre is re-delineated as riparian wetland during USACE review the final acreages may change slightly but would not result in differences in the assessed environmental impacts of the project.

Gravel augmentation and side channel entrance and exit excavation activities would occur in the Feather River within the ordinary high-water mark. Impacts to riparian vegetation would occur during these activities, but disturbance of this vegetation would be minimal and temporary, as the project description and environmental commitments include stabilizing disturbed areas and planting willows at the river's edge of the access roads. In addition, natural recruitment of this riparian vegetation is anticipated to occur. These impacts would be less than significant because, although in--channel work may result in temporary impacts to riparian wetlands, these impacts would be short term and would ultimately result in an improved stream environment. Compliance with regulatory permit requirements for the project would further minimize impacts.

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?

Less than Significant with Mitigation Incorporated. The project would not substantially interfere with the movement of any sensitive fish or wildlife species, wildlife corridor, or impede on the use of wildlife nursery sites. Proposed activities are not anticipated to affect the movement of migratory wildlife species or impede the use of native wildlife nursery sites.

Although the fish barrier dam is located approximately one-quarter mile upstream of the project limits, the project area provides both an upstream and downstream migratory corridor for adult and juvenile anadromous fish species, as well as other fish species. Adult anadromous fish species migrate upstream to spawn within and upstream of the project area and further upstream to access the FRFH. Juvenile anadromous fish species migrate downstream through the project area on their way to the estuary or ocean. Proposed temporary in-water activities have the potential to deter movement of fish or other aquatic species where work is taking place and downstream as a result of construction-generated turbidity. Work would be scheduled to take place during daylight hours; therefore, fish and wildlife movement through the project area would not be affected at night. The protective measures listed in Mitigation Measure BIO-11 and sediment control measures included in the SWPPP (refer to Section 2.5.4, "Prepare a Stormwater Pollution Prevention Plan") would reduce this potential impact to less than significant.

Mitigation Measure BIO-11: Implement Measures to Minimize Potential to Interfere with Movement of Migratory Fish and Wildlife Species

- All vehicle stream crossings constructed in the Feather River will be wet or under water and will be constructed in a way to avoid being a barrier to upstream or downstream movement of aquatic life.
- If turbidity curtains are used, they will be installed in a way to not inhibit fish migration within or through the project area and may not extend across more than 75 percent of the channel width at any location.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The purpose of the proposed project is to improve salmonid spawning habitat. Potential construction-related environmental impacts would be less than significant or reduced to less than significant with implementation of environmental commitments and mitigation measures incorporated into the project and, as such, would not conflict with any policies or ordinances protecting biological resources. Therefore, there would be no impact.

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?

No Impact. The proposed project is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, there would be no impact.

3.6 Cultural Resources

V. CULTURAL RESOURCES — Would the project:	**Level of Significance**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Less than Significant with Mitigation Incorporated

V. CULTURAL RESOURCES — Would the project:	**Level of Significance**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less than Significant with Mitigation Incorporated
c) Disturb any human remains, including those interred outside of formal cemeteries?	Less than Significant with Mitigation Incorporated

3.6.1 Regulatory Setting

Cultural resources are defined as buildings, sites, structures, or objects, that may have historic, architectural, archaeological, cultural, or scientific importance. CEQA defines a "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). State laws and regulations providing the definitions, protections, and management of cultural resources relevant to the proposed project include:

- CEQA, Public Resources Code, Sections 21083.2 and 21084.1.
- CEQA Guidelines, Section 15064.5.
- California Public Resources Code, Sections 5020.1, 5024 et seq., and 5097.98.
- California Health and Safety Code, Sections 7050.5(b) and 7050.5(c).

3.6.2 Environmental and Cultural Setting

The proposed project area is located at the intersection of the Sierra Nevada foothills and the Sacramento Valley within and adjacent to the Feather River. It is approximately 5.2 miles downstream of the Oroville Dam and between 150 to 200 feet above mean sea level. The uplands are covered in annual grasses and sparse patches of oak trees. Closer to the river, riparian habitat includes such plant species as western sycamore, white alder, willow, Oregon ash, box elder, and blackberry.

Soils within the project area are mostly composed of xerorthents (tailings) intermixed with sandy loam (Natural Resource Conservation Service 2022). The portion of the project area that includes the Feather River is limited to stream channel deposits, which are actively being transported under modern hydrologic conditions. The underlying geology of the project area includes a combination of Mesozoic volcanic and metavolcanic rocks, as well as loosely consolidated Pliocene and/or Pleistocene sandstone, shale, and gravel

deposits (California Department of Conservation 2022; California Division of Mines and Geology 1992).

Overall, the project area has been highly disturbed: first by gold dredging in the early 1900s; then by construction of DWR's Oroville Facilities in the 1960s, including the nearby FRFH; followed by grading by private landowners, which mostly flattened the upland landscape.

Human presence in the project vicinity likely dates to the early Holocene (pre-7000 before present [B.P.]) and middle Holocene (7000 to 4000 B.P.), though the archaeology remains poorly understood (Delacorte 2015; Meyer and Rosenthal 2008). By contrast, the record of late Holocene occupation (i.e., approximately the last 4,000 years) is well represented in the region, marked by increasing cultural elaboration and economic intensification. The cultural chronology of the Oroville locality is separated into four cultural complexes: Mesilla (circa [ca.] 4000 to 2000 B.P.), Bidwell (ca. 2000 to 1200 B.P.), Sweetwater (ca. 1200 to 500 B.P.), and Oroville (ca. 500 to 150 B.P.). For detailed summaries of the prehistoric archaeology, see Delacorte and Basgall (2006), Meyer and Rosenthal (2008), Kowta (1988), and Ritter (1970).

The historical period begins with a Spanish expedition into the area in 1820–1821, followed by a series of French and English-speaking fur trapping parties in the late 1820s and 1830s. In the mid-1840s, the Mexican government granted two Californios a large tract of land that includes part of the current project area. Coinciding with Mexico ceding California to the U.S. in early 1848, the Gold Rush began that same year and resulted in a mass influx of miners and establishment of placer mines and mining settlements throughout the area. Transportation networks, rural settlements, and agriculture continued to develop through the late 19th and early 20th centuries. Dredge mining on the Feather River was the dominant form of gold extraction below Oroville from 1898 through 1916, when deposits were depleted. In 1960, voters approved funding for the Oroville Dam and construction began in 1961. The FRFH was constructed between 1962 and 1967. For detailed historical summaries of the project vicinity, see Herbert et al. (2004), Selverston et al. (2005), and Selverston et al. (2011).

3.6.3 Methods

The cultural resources investigation carried out for the proposed project included a Sacred Lands File database search with the Native American

Heritage Commission (NAHC) (see Section 3.13, "Tribal Cultural Resources"), a records search conducted at the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS), background research utilizing DWR's in-house cultural resources geodatabase and library, and an archaeological survey of the proposed project area. For detailed inventory methods and findings, see Thomas (2022).

A CHRIS records search of the 46-acre project area and a 0.25-mile radius was conducted by the NEIC at Chico State University in October 2021 and updated in May 2022. DWR's in-house cultural resources geodatabase and library were also reviewed to identify cultural resources and previous survey coverage within the proposed project area. In addition to site records and survey reports, review of the DWR library included historic U.S. Geological Survey topographic quadrangles, General Land Office plat maps, and aerial photographs. Results indicated three archaeological surveys and one built environmental survey were previously conducted within the project area (Harrington 2006; Herbert et al. 2004; Schmid 2012; Selverston et al. 2005; Walker and Delacorte 2015).

A new pedestrian survey of the project area was completed by qualified DWR archaeologists on September 10, 2021, and January 10, 2022. Methods included walking transects spaced at 10-meter intervals and visually inspecting the ground surface. All rock outcroppings were individually inspected for evidence of modification. Tracks were recorded using a handheld Garmin 64st global positioning system unit. Most of the project area has been heavily disturbed by dredging and development. In the upland areas, vegetation was limited to light grasses, and surface visibility ranged from 50 to 100 percent. On the islands and areas adjacent to the river, riparian vegetation was moderately dense and surface visibility ranged from 25 to 50 percent.

3.6.4 Findings

Based on the CHRIS records search, background research, and pedestrian surveys, five cultural resources were identified within the project area, including two historic-era sites, one historic-era district, and two prehistoric sites. The historic-era cultural resources include a two-track dirt road (P-04-001944), remnants of a dredge field (P-04-002565), and the forks of the Feather River Historic District (FFRHD). The prehistoric cultural resources include a bedrock milling complex (P-04-003310) and an isolated bedrock milling site (OFD-2021-014-01).

P-04-001944 is an abandoned two-track dirt road. It was previously evaluated and determined to be ineligible for the CRHR (Ambacher 2011). Based on the previous evaluation, the two-track road is not considered an historical resource or archaeological resource under CEQA.

P-04-002565 is the remnants of a dredge field, which includes five tailings' piles and associated pits. P-04-002565 has not been evaluated for eligibility for listing on the CRHR individually, but it was categorized as "eligible" as a contributor to the FFRHD under Criteria 1 and 4. The FFRHD is a proposed archaeological district with 690 contributing elements grouped into overarching themes and periods of significance, including gold mining, settlement, and other extractive industries (Selverston et al. 2011). The FFRHD was previously evaluated for the CRHR but has not been formally determined eligible. For the purposes of this assessment, both P-04-002565 and the FFRHD are assumed eligible for the CRHR.

P-04-003310 is a prehistoric bedrock mortar complex situated on exposed basalt bedrock within the channel of the Feather River. OFD-2021-014-01 is a small, isolated bedrock milling station on exposed sandstone located along the bank of the Feather River. Neither resource has been evaluated for eligibility for listing on the CRHR. They are assumed eligible for listing on the CRHR for the purposes of this assessment.

3.6.5 Discussion

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

–and–

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

***Less Than Significant with Mitigation Incorporated*.** Although five cultural resources were identified within the project area, only four meet the definition of historical and archaeological resources (P-04-003310, OFD-2021-014-01, P-04-002565, and the FFRHD). No project activities are planned within the defined site boundaries of the bedrock mortar complex (P-04-003310), isolated bedrock milling station (OFD-2021-014-01), or the remnant dredge field (P-04-002565). As no project activities are planned within the remnant dredge field, the FFRHD will also be avoided. Although no impacts to these resources

are anticipated, if activities were to occur inside the defined site boundaries, impacts would be potentially significant. To ensure that project activities avoid all historical and archaeological resource boundaries and that no impacts to these resources occur, Mitigation Measure CUL-1 would be implemented.

Mitigation Measure CUL-1: Designate Environmentally Sensitive Areas for Avoidance

- To protect the confidentiality of resource locations and ensure avoidance during project implementation, a qualified archaeologist will designate environmentally sensitive areas (ESAs) that appropriately encompass each known resource boundary. Each ESA will be delineated on project plans for avoidance.
- As appropriate, a qualified archaeologist will physically demarcate ESAs within the project area to ensure equipment operators, construction personnel, and DWR inspectors can visually identify them for avoidance. This boundary marking may include placing flagging, cones, fencing, or other physical barriers around ESA boundaries.
- During the worker environmental awareness training, a qualified archaeologist will ensure that the contractor and DWR inspectors are aware of ESA boundaries and avoidance requirements.

Because the project area has been heavily disturbed by dredge mining and development, and excavation outside the river channel will be limited, the potential for encountering new or previously undiscovered subsurface cultural resources during project implementation is generally considered low. But, the presence of unknown cultural resources is always a possibility, and disturbance to a previously unknown cultural resource would be potentially significant.

To address the unanticipated discovery of buried cultural resources, Mitigation Measure CUL-2 would be implemented, which would require worker awareness training and that steps be taken in the event that resources are encountered during project construction. Implementing Mitigation Measure CUL-2 would reduce potential impacts to less than significant.

Mitigation Measure CUL-2: Provide Worker Awareness and Response Training for Undiscovered Historical, Archaeological, and Tribal Cultural Resources

- During the worker environmental awareness training, a qualified archaeologist shall provide training to the construction contractor and DWR inspector regarding the potential for cultural and tribal cultural resources that could be encountered during construction and ground disturbing activities, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource.
- If any evidence of prehistoric, historic, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, etc.) is observed, all work within 100 feet of the find shall cease immediately. An archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeology shall be consulted to assess the significance of the cultural find and recommend appropriate measures for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery.
- If a previously undiscovered resource may be of Native American origin, DWR shall consult with the culturally affiliated tribes to whom the resource could have importance. For tribal cultural resources, the identification and implementation of avoidance or minimization measures would be conducted in consultation with the culturally affiliated tribes.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

***Less Than Significant with Mitigation Incorporated*.** Based on background research and pedestrian survey, there is no evidence to suggest that any prehistoric or historic era marked, or unmarked human interments, are present within or in the immediate vicinity of the project area. But, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. It is possible that unmarked, previously unknown Native American or other graves could be present within the

project area and could be uncovered during project implementation. This impact on undiscovered or unrecorded human remains would be potentially significant. To address the unanticipated discovery of previously unknown Native American or other human remains, Mitigation Measure CUL-3 will be implemented, requiring the performance of professionally accepted and legally compliant procedures in the event of discovery of human remains. Implementing Mitigation Measure CUL-3 would reduce potential impacts to less than significant.

Mitigation Measure CUL-3: Avoidance of Potential Impacts to Undiscovered Burials

If human remains are discovered during any project activities, all ground disturbing activities within 100 feet of the remains shall be halted immediately and a qualified archaeologist shall inspect the location. DWR shall notify the Butte County coroner immediately, who will contact the NAHC, in accordance with Health and Safety Code, Section 7050.5(b). Protocols and requirements outlined in Health and Safety Code, Sections 7050.5(b) and 7050.5(c), as well as Public Resources Code, Section 5097.98, will be followed.

3.7 Geology and Soils

VII. GEOLOGY AND SOILS — Would the project:	**Level of Significance**
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?	No Impact
ii) Strong seismic ground shaking?	No Impact
iii) Seismic-related ground failure, including liquefaction?	No Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less than Significant

VII. GEOLOGY AND SOILS — Would the project:	Level of Significance
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?	Less than Significant
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	No Impact
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?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

3.7.1 Environmental Setting

The project area soils adjacent to the river are classified as "Xerorthents, tailings" to the north and "Xerorthents, tailings-Urban land complex" to the south. The Xerorthents map unit is used to classify areas of dredge tailings (Natural Resources Conservation Service 2022).

3.7.2 Discussion

a) Expose people or structures to 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?

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

No Impact. The proposed project area is not located in an Alquist-Priolo Earthquake Fault Zone, as defined by the California Geological Survey, and no active or potentially active faults exist on, or in the immediate vicinity of, the project area (Bryant and Hart 2007; Jennings and Bryant 2010). The

proposed project would not exacerbate seismic conditions that could expose people or structures to seismic risks or induce seismically triggered landslides, surface fault rupture, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, there would be no impact.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant. The proposed project is a habitat improvement project that would import gravel to improve spawning habitat conditions in the Feather River. The proposed project would involve some ground-disturbing activities, including staging area preparation, excavation of accumulated material at two side channels, and placement of gravel in designated locations throughout the reach of the Feather River within the project area. Access roads would be left in place, but any remaining newly disturbed areas would be stabilized as appropriate and in compliance with regulatory permits (as stated in the SWPPP described in Section 2.5.4, "Prepare a Stormwater Pollution Prevention Plan"). Any underlying topsoil would have a low potential for erosion. In addition, environmental commitments incorporated into the proposed project, which include installation of erosion control materials as needed, would minimize soil erosion. Therefore, impacts would be less than significant.

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?

***Less-Than-Significant Impact*.** The primary soil type within the project area are Xerorthents, dredge tailings from gravelly alluvium that have low runoff, excessive drainage, low shrink-swell potential, and low erosion hazard. The project area is not characterized by soils that are highly susceptible to lateral spreading (fine-grained, sensitive soils such as quick clays). Landslide and subsidence potential are low because of the limited ground disturbance on slopes and relatively high representative value of sand (U.S. Department of Agriculture 2022). Liquefaction potential is also low because of a lack of active fault zones. Therefore, the potential for unstable soils that may result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse is less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?

No Impact. No construction of buildings or other structures are proposed. Therefore, there would be no impact.

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?

No Impact. The proposed project would not involve the generation of sewage or wastewater that would require onsite treatment, and no septic systems or alternative wastewater disposal systems are proposed. Therefore, there would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. Soils within the project area consist of dredged tailings, which are not considered to contain paleontological resources. Proposed construction includes excavation of accumulated material that has been transported from upstream of the side channels and would not extend into older sediments. Therefore, there would be no impact to paleontological resources.

3.8 Greenhouse Gas Emissions

VIII. GREENHOUSE GAS EMISSIONS — Would the project:	**Level of Significance**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

3.8.1 Environmental Setting

GHGs trap heat by preventing some of the solar radiation that hits the earth from being reflected into space. Carbon dioxide (CO_2), methane (CH_4), and

nitrous oxide (N_2O) are the principal GHGs associated with land use projects. CO_2, CH_4, and N_2O occur naturally and through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion, and CH_4 results from the release of gases associated with agricultural practices and landfills. Human activities have substantially increased the concentration of GHGs in our atmosphere.

In May 2012, DWR adopted the DWR GGERP, which details DWR's efforts to reduce its GHG emissions consistent with Executive Order S-3-05 and the Global Warming Solutions Act of 2006 (Assembly Bill 32). DWR also adopted the initial study/negative declaration prepared for the GGERP in accordance with the CEQA Guidelines review and public process. Both the GGERP and initial study/negative declaration are incorporated herein by reference (California Department of Water Resources 2012a, 2012b). The GGERP provides estimates of historical (back to 1990), current, and future GHG emissions related to operations, construction, maintenance, and business practices (e.g., building-related energy use). The GGERP specifies aggressive 2020 and 2050 emission reduction goals and identifies a list of GHG emissions reduction measures to achieve these goals.

DWR specifically prepared its GGERP as a "Plan for the Reduction of Greenhouse Gas Emissions" for purposes of CEQA Guidelines, Section 15183.5. That section provides that such a document, which must meet certain specified requirements, "may be used in the cumulative impacts analysis of later projects." Because global climate change, by its very nature, is a global cumulative impact, an individual project's compliance with a qualifying GHG Reduction Plan may suffice to mitigate the project's incremental contribution to that cumulative impact to a level that is not "cumulatively considerable" (CEQA Guidelines, Section 15064, subdivision (h)(3)).

More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG emissions reduction plan. "An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project" (CEQA Guidelines Section 15183.5, subdivision (b)(2)).

Section 12 of the GGERP outlines the steps that each DWR project will take to demonstrate consistency with the GGERP. These steps include:

9. Analysis of GHG emissions from construction of the proposed project.
10. Determination that the construction emissions from the project do not exceed the levels of construction emissions analyzed in the GGERP.
11. Incorporation into the design of the project DWR's project-level GHG emissions reduction strategies.
12. Determination that the project does not conflict with DWR's ability to implement any of the "Specific Action" GHG emissions reduction measures identified in the GGERP.
13. Determination that the project would not add electricity demands to the State Water Project system that could alter DWR's emissions reduction trajectory in such a way as to impede its ability to meet its emissions reduction goals.

Consistent with these requirements, Appendix A, "Checklist and Assessment Form for Consistency and Compliance with GHG Emissions Reduction Plan," demonstrates that the proposed project would meet each of the required elements and would be consistent with the GGERP.

3.8.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant. Construction of the proposed project would generate GHG emissions from a variety of sources, including off-road construction equipment and on-road worker and hauling vehicles. Emissions from construction equipment, as well as estimates of the energy that would be used during the construction period, are summarized in Appendix A. It is estimated that the total construction activity emissions would be approximately 456 metric tons of carbon dioxide equivalent ($mtCO_2e$). The BCAQMD has not adopted a GHG threshold (Butte County Air Quality Management District 2014), but this quantity would be well below the U.S. Environmental Protection Agency threshold for an "extraordinary" construction project, which is defined as a project that produces 25,000 $mtCO_2e$ or more during the entire construction phase, or 12,500 $mtCO_2e$

during any single year of construction. Based on the analysis provided in the GGERP and the demonstration that the proposed project is consistent with the GGERP (Appendix A), DWR, as lead agency, has determined that the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs would be less than cumulatively considerable and, therefore, less than significant. DWR would further reduce the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs by implementing DWR's project-level GHG emissions-reduction BMPs for construction activities, which have been incorporated as environmental commitments in the project description.

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. DWR's GGERP is in compliance with all applicable plans and policies, and the proposed project is consistent with the GGERP. Therefore, there would be no impact.

3.9 Hazards and Hazardous Materials

IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:	**Level of Significance**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant
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?	Less than Significant
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
e) For a Project located within an airport land use plan or,	No Impact

IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:	Level of Significance
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?	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less than Significant

3.9.1 Environmental Setting

The project area is surrounded by the FRFH and a combination of vacant, commercial, rural residential, and open space or park lands.

3.9.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

–and–

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?

Less than Significant. Proposed construction would require the use of hazardous materials such as diesel, gasoline, hydraulic fluids, and lubricants. The improper use, handling, storage, transport, or disposal of hazardous materials constitute an inherent risk that could result in the exposure of workers to hazardous materials and, if those hazardous materials were accidentally released, become a hazard to the environment. However, implementing environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, and checking vehicles for leaks (refer to Section 2.5, "Environmental Commitments"), would minimize impacts to water quality and the adjacent riparian habitat. Adherence to transport and storage regulations, as well as CVRWQCB Section 401 permit requirements (including implementing

a spill prevention, control, and countermeasure plan), would further minimize potential impacts to water quality and result in a less-than-significant impact.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

***No Impact*.** There are no existing or proposed schools within 0.25 mile of the project area. Therefore, there would be no impact.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

***No Impact*.** The proposed project is not located on or near a site that is included on a list of hazardous materials sites compiled pursuant to Government Code, Section 65962.5 (California Department of Toxic Substances Control 2022; California State Water Resources Control Board 2022). Therefore, there would be no impact.

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?

No Impact. The project area is located more than 3 miles from the Oroville Municipal Airport and would not change the land use designation, construct tall structures, or result in an airport-related safety hazard. Therefore, there would be no impact.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Proposed construction activities would occur in open space areas, within the Feather River, and in portions of a city park. These activities would not require road closures or detours. Construction activities would require the closure of Bedrock Park and a portion of the Feather River

for public safety, but closures would be limited to the project area. As detailed in the construction management plan described in Section 2.5.1, "Prepare a Construction Management Plan," the public would be made aware of the construction area and limited access by means of informational signage on site and at nearest public boat access points. In addition, signs and flaggers would be used, when necessary, to inform residents of large trucks and equipment in the area and to inform equipment operators of recreationists in the vicinity. Consequently, none of the proposed project activities would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Therefore, there would be no impact.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Less than Significant. The project area is located within a local responsibility area designated as a "non-very high fire hazard severity zone" (California Department of Forestry and Fire Protection 2022). Construction activities would occur in open, previously disturbed areas and within the Feather River. The land use types surrounding the project area have a low potential for wildland fires. In addition, pursuant to construction BMPs, DWR contractors and staff would be equipped with fire safety equipment (e.g., water trucks and extinguishers) and fire safety plans to prevent an accidental fire during construction activities. Therefore, the proposed project would not result in a significant increase in risk of fire that would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and impacts would be less than significant.

3.10 Hydrology and Water Quality

X. HYDROLOGY AND WATER QUALITY — Would the project:	**Level of Significance**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less than Significant
b) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant

c) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:	
i) Result in substantial erosion of siltation on- or off-site?	Less than Significant
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant
iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	Less than Significant
iv) Impede or redirect flood flows?	Less than Significant
e) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact

3.10.1 Environmental Setting

Hydrology

Flows in the Feather River within the reach of the project area (i.e., the LFC) are required to be at least 600 cfs or greater year-round. Flows may be temporarily increased during the year for a variety of reasons such as fishery benefit, water temperature management, or other operational needs. In some above-normal and wet years, releases in excess of the power generating capacity of the upstream Thermalito Pumping-Generating Plant are occasionally required from Lake Oroville for flood management purposes. During these high-flow events, additional flows are released (California Department of Water Resources 2008). This flow can also be reduced if operating emergencies beyond the control of DWR necessitate lower flows.

Water Quality

This reach of the Feather River is primarily managed for cold water habitat, which is a beneficial use identified in the CVRWQCB Basin Plan. Other beneficial uses for this reach of the Feather River include agricultural supply, domestic

water supply, water contact recreation, and warm freshwater habitat (Central Valley Regional Water Quality Control Board 2019). However, water management emphasizes the flows and water temperatures required to protect cold-water fish species such as spring-run Chinook salmon, fall-run Chinook salmon, Central Valley steelhead, rainbow trout, brown trout, brook trout, green sturgeon, white sturgeon, river lamprey, and American shad.

Ten surface water monitoring stations collected samples along the Feather River within the project area and vicinity. Most samples were collected between 2002 and 2004 in relation to FRFH operations. Occasional surface water quality impairments detected at these sampling locations include total dissolved solids, sodium, and chloride concentrations above agricultural limits (Ayers and Westcot 1985). During some sampling events iron, specific conductance, and aluminum were also measured above California drinking water taste thresholds (U.S. Environmental Protection Agency 1986).

Since 1980, DWR has sampled four groundwater wells within 2 miles of the project area (State well numbers 19N04E06P001M, 19N04E18C001M, 19N03E01H002M, and 19N04E07P001M), but only one of these wells (19N04E06P001M) has been sampled recently (in 2006). Dominant cations are sodium and magnesium, and dominant anions include bicarbonate, chloride, and sulfate. Groundwater quality impairments include a sodium concentration above agricultural goals in one well (19N04E07P001M) (U.S. Environmental Protection Agency 1986).

3.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

–and–

b) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. The proposed project would not affect water temperatures within the project area and, therefore, would not violate water quality objectives for the cold water habitat beneficial use. Exposed slopes during construction could be subject to erosion and could cause temporary discharges of sediment and other contaminants resulting in degradation of

Feather River water quality. The placement of gravel could also result in temporary degradation of water quality. But, implementing environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, and implementing a SWPPP and spill prevention and control plan (refer to Section 2.5, "Environmental Commitments"), would minimize impacts to water quality. Adherence to the requirements of a general construction National Pollutant and Discharge Elimination System permit from the CVRWQCB and applicable water quality certification permits pursuant to Section 401 of the Clean Water Act to prevent water quality pollutants (such as silt, sediment, hazardous materials, and construction-related fluids from entering receiving waters) would further minimize impacts. Because of these efforts, the proposed project would not violate water quality standards, degrade surface or groundwater quality, or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, impacts would be less than significant.

c) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

***No Impact*.** The proposed project would not change the course of the Feather River, require groundwater pumping, construct impermeable surfaces, or otherwise interfere with groundwater recharge. Therefore, there would be no impact.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

–and–

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

–and–

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?

–and–

iv) Impede or redirect flood flows?

Less than Significant. The proposed project is a restoration action that does not include the addition of impervious surfaces. Gravel augmentation and side channel excavation activities would result in temporary ground disturbance along new access roads and at points of excavation. The proposed project would prevent erosion and siltation during construction by implementing environmental commitments incorporated into the proposed project, which include providing environmental awareness training, defining work area limits, implementing a SWPPP and spill prevention and control plan, and complying with applicable permits (refer to Section 2.5, "Environmental Commitments"). These areas of disturbance would also be stabilized at the end of construction as described in Section 2.5, "Environmental Commitments," and pursuant permit requirements. These areas of temporary disturbance would not result in substantial erosion or siltation and would be less than significant.

Hydraulic modeling for the proposed project was conducted using the Hydrologic Engineering Centers River Analysis System hydraulic modeling software (HEC-RAS). The base 1-D model was prepared by MWH for DWR in support of FERC relicensing. The base model was modified by DWR to reflect the conditions of the proposed project and included the Feather River reach between SR 70 and the fish barrier dam. DWR modeled two events for this reach: 210,000 cfs (1957 flood stage) and 290,000 cfs (200-year event).

Modeling results indicate that if the proposed gravel were to remain in place during a flow of 210,000 cfs, the gravel would cause a localized minimal increase in water surface elevation within the project area and an increase of approximately 0.13 feet at the upstream end of the project area (Figure 8). For a flow of 290,000 cfs, an increase of approximately 0.11 feet is predicted at the upstream end of the project area (Figure 9). The fish barrier dam would prevent any rise in water surface elevation from extending farther upstream. Water surface elevations downstream of the project area would not be affected.

Figure 8 Predicted increase in water surface elevation from proposed gravel placement for a flow of 210,000 cfs

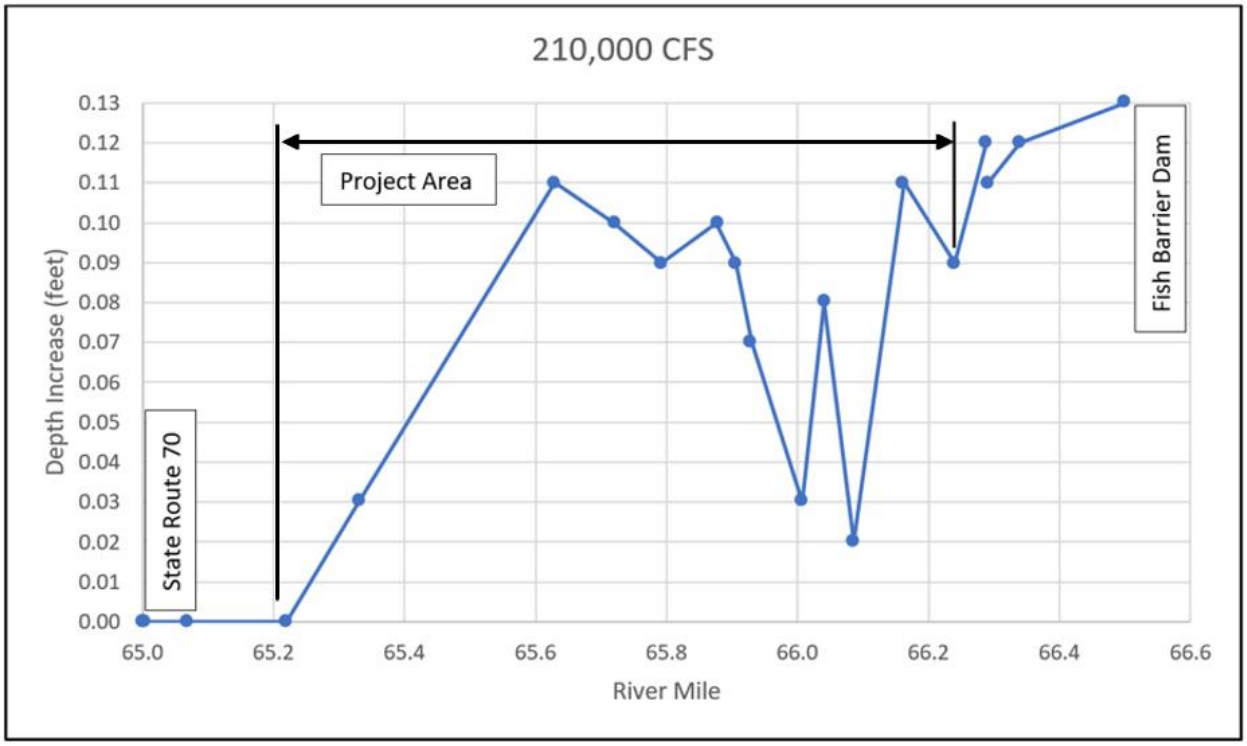
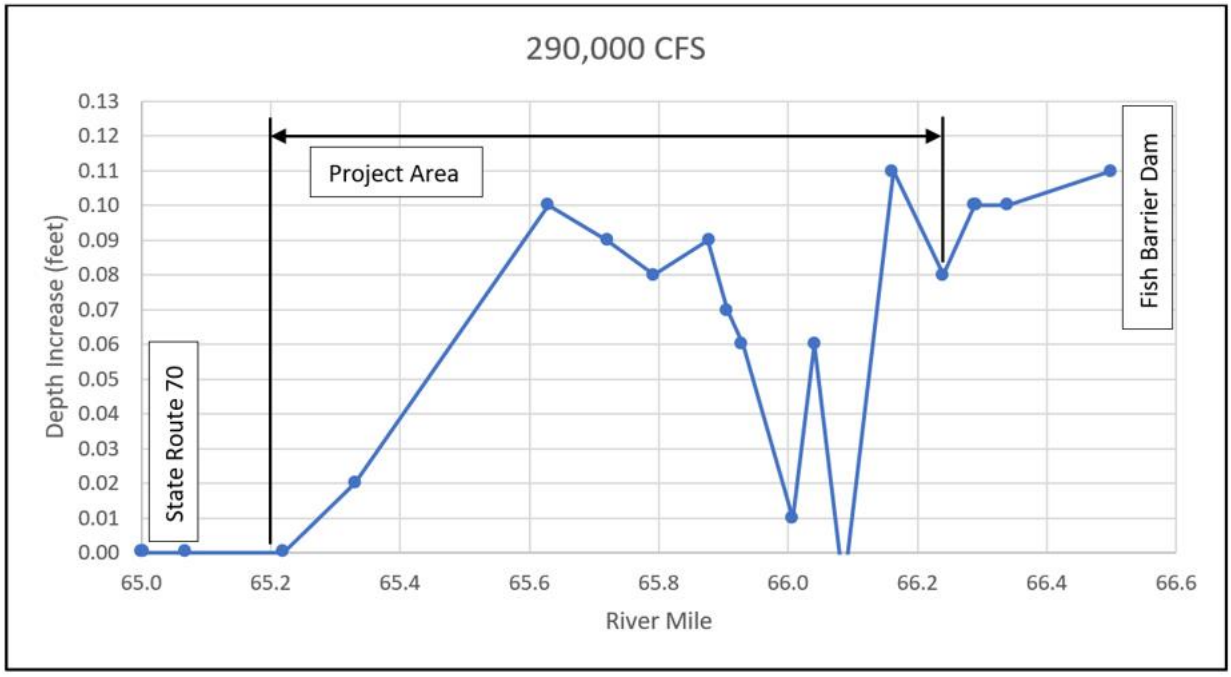


Figure 9 Predicted increase in water surface elevation from proposed gravel placement for a flow of 290,000 cfs



The predicted localized increase in water surface elevation under these two modeling scenarios would be minimal and would not have an effect on levee overtopping during these high flows if the gravel were to remain in place during a high-flow event. It should be noted, however, that hydraulic modeling conducted for the 2014 gravel augmentation project (which was located in the same reach of the river) indicated that the gravel would begin to mobilize at flows between 7,000 cfs and 14,000 cfs, indicating that gravel would mobilize on the ascending limb of a flood flow and would have a negligible effect on water surface elevation (California Department of Water Resources 2012c). Based on sediment transport modeling performed in 2020 it is estimated that more than 350,000 CY of bed material would mobilize downstream of the project area during a flow of 150,000 cfs (CBEC, Inc. 2020). The approximately 16,260 CY of gravel placement as a result of the proposed project would only increase the total volume of gravel that is expected to mobilize during such a high-flow event by approximately 4 percent. Therefore, the placement of gravel would not alter the hydrology of the Feather River, increase surface runoff, affect drainage patterns, or impede or redirect flood flows. Impacts would be less than significant.

e) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

***No Impact*.** The proposed project activities would not occur in a tsunami or seiche hazard zone. The project area is located within a reach of the Feather River where flows are controlled and would not be exposed to flood hazards during the timing of construction activities. Therefore, there would be no impact.

3.11 Noise

XIII. NOISE — Would the project:	**Level of Significance**
a) Generate 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?	Less than Significant
b) Generate excessive groundborne vibration or groundborne noise levels?	Less than Significant
c) For a project located within the vicinity of a private airstrip	No Impact

XIII. NOISE — Would the project:	**Level of Significance**
or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the project area to excessive noise levels?	

3.11.1 Environmental Setting

Noise is defined as excessive, unwanted, unexpected, or unpleasant sound. The primary existing source of noise in the vicinity of the project area is traffic along SR 70 and Table Mountain Boulevard. A Union Pacific Railroad track is located a minimum of 0.25 mile south-southwest of the project area.

Noise impacts are typically described as the effect on noise-sensitive land uses that are located within hearing range of a noise-producing activity. These noise-sensitive land uses are referred to as sensitive receptors and include residences, schools, hospitals, child-care facilities, and other similar land uses where noise could affect health or safety. A sensitive receptor's response to noise can vary depending on existing background (ambient) noises and the intensity, duration, frequency, and timing of the noise. In general, the more that a noise exceeds the existing ambient noise level, intensity, duration, or frequency, the less acceptable the new noise will be, as judged by the exposed receptor.

Sensitive receptors in the vicinity of the project area include numerous residences adjacent to this reach of the Feather River and the surrounding commercial and business areas that include daycare and educational facilities. The nearest residence is located approximately 1,000 feet from proposed construction activities.

3.11.2 Discussion

a) Generate 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?

Less than Significant. The Noise Control Ordinance of Butte County (Butte County 2022) exempts construction noise located within 1,000 feet of residential uses from the provisions of the ordinance if construction activities do not take place:

- Between sunset and sunrise on weekdays and non-holidays.
- Before 8:00 a.m. on holidays.
- Between 6:00 p.m. on Friday and 8:00 a.m. on Saturday.
- Between 6:00 p.m. Saturday and 10:00 a.m. Sunday.
- After 6:00 p.m. on Sunday.

During construction of the proposed project, a temporary increase in noise levels over ambient conditions would be created by construction equipment hauling and placing gravel. This increase would be minimal, would not be at a level that would substantially increase ambient noise levels, and would occur during daylight hours within the work windows specified in the Butte County Noise Control Ordinance (refer to Section 2.3, "Construction Schedule and Sequencing," for construction work hours). The distance from the nearest receptor (1,000 feet) would attenuate construction noise levels, and vegetation within and surrounding the project area would further attenuate noise levels. Noise impacts would be less than significant.

b) Generate excessive groundborne vibration or groundborne noise levels?

Less than Significant. The types of construction equipment associated with proposed activities (described in Section 2.2, "Construction Equipment") are not identified by the California Department of Transportation (2013) or the U.S. Department of Transportation (2018) as associated with generation of notable vibration. Groundborne vibration may be generated when gravel material is delivered to the project area, but the vibration would not be excessive and would occur a minimum of 1,000 feet from the nearest receptor. Therefore, vibration associated with proposed construction activities would result in a less-than-significant impact.

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?

***No Impact*.** The project area is located more than 3 miles from the nearest airport. The proposed project would not establish new noise-sensitive land uses that could be exposed to airstrip noise. The project would not expose people residing or working in the project area to excessive noise levels. Therefore, there would be no impact.

3.12 Recreation

XVI.Recreation — Would the project:	**Level of Significance**
a) Increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than Significant
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less than Significant

3.12.1 Environmental Setting

Bedrock Park, a 3.75-acre park area on river left, is the primary recreational opportunity within the project area. Bedrock Park is a city-managed open space that offers swimming and views of the Feather River. Bedrock Park is connected to Riverbend Park and Centennial Plaza by a paved walking path along the river that is accessible by foot or bike. Picnic areas, water access, fishing, and bleachers for events are other amenities available at Bedrock Park.

The FRFH is located on river right, immediately below the Fish Barrier Dam and approximately 0.5 mile below the Thermalito Diversion Dam. FRFH provides interpretive displays related to salmon and steelhead, and seasonally provides a unique opportunity for visitors to watch fish ascend the fish ladder to the hatchery through underwater windows. Tours of FRFH are also offered to the public. Additional amenities include an overlook platform at the base of the Fish Barrier Dam, riverbank benches, and restrooms. Non-motorized boats are also occasionally hand launched from the riverbank near the FRFH and angling is popular (California Department of Water Resources 2008).

3.12.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated?

–and–

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant. During construction, temporary impacts to recreation would include closures to the public for the purpose of safety. Closures during construction would be limited to the project area. Under the construction management plan described in Section 2.5.1, "Prepare a Construction Management Plan," the public would be made aware of the construction area and limited access by means of informational signage on site and at nearest public boat access points.

Temporary closure areas would not increase the use of other existing parks or facilities such that substantial physical deterioration of the facility would occur or be accelerated and would not require the construction or expansion of recreational facilities. After construction, the project may indirectly result in increased use of Bedrock Park through potential improvement to water recreation conditions from increased flow within the side channel, but this potential incidental increase in use is not anticipated to result in substantial deterioration of Bedrock Park. With incorporation of environmental commitments, impacts to recreation would be avoided or minimized and would be less than significant.

3.13 Tribal Cultural Resources

XVIII. TRIBAL CULTURAL RESOURCES — Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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:	**Level of Significance**
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 Resources Code Section 5020.1(k), or	Less than Significant with Mitigation Incorporated
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.	Less than Significant with Mitigation Incorporated

3.13.1 Regulatory Setting

Tribal cultural resources (TCRs) are defined under California Code, Public Resources Code, Section 21074, as sites, features, places, geographically defined cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. To qualify as a TCR under CEQA, the resources must be listed or eligible for listing in the CRHR or be determined to meet CRHR criteria by the lead agency after considering the significance of the resource to the tribe.

3.13.2 Ethnographic Setting

The project area lies within the ethnographic territory occupied by the Konkow Maidu (Kroeber 1925; McCarthy 2004, 2009; Riddell 1978). The Konkow speak one of the three ethnolinguistic divisions of the broader Maidu language family. The Konkow once held lands in the lower mountains and foothill elevations of the Feather River and Honcutt Creek watersheds. Lands in the Central Valley included portions of the Sacramento River around Chico and down the Feather River to the vicinity of the Sutter Buttes. Throughout this territory, the Konkow were organized in village communities that consisted of a large primary village and numerous small satellite villages.

The ethnographic literature identifies several large village sites located along the right bank of the Feather River between the City of Oroville and the Oroville Wildlife Area. Archaeological remnants of these villages are absent today as the result of early historic mining, dam construction, and the general development of Oroville.

The Konkow traditionally practiced a mixed economy of fishing, hunting, and gathering. Economic resources were obtained by seasonally traveling to productive locations throughout the territory. The Feather River provided plentiful salmon, lamprey eel, and other desirable fish species, as well as shellfish. Resources that were not available within village community lands were obtained through trade with other village communities, their Mountain Maidu and Nisenan relatives, or others such as the Patwin to the southwest.

During the 19th century, the Gold Rush and subsequent Anglo-American settlement decimated the Konkow Maidu population, deprived them of their ancestral lands, and severely affected their ability to practice traditional lifeways. In the mid-20th century, construction of DWR's Oroville Dam and Lake Oroville again forced Konkow Maidu communities from ancestral lands and inundated important cultural sites below the reservoir, including salmon spawning grounds and spear fishing sites at the confluence and on the forks of the Feather River.

Despite various historical and modern challenges, the Konkow Maidu people continue to live and practice their traditional culture in the Oroville area. Four Maidu tribes currently reside in the Oroville vicinity: Berry Creek Rancheria of Maidu Indians (Berry Creek); Enterprise Rancheria Estom Yumeka Maidu (Enterprise); Mooretown Rancheria of Maidu Indians (Mooretown); and Konkow Valley Band of Maidu (Konkow Valley). Berry Creek, Enterprise, and Mooretown are federally recognized tribes and have small tribal land holdings. Konkow Valley has petitioned for federal recognition.

3.13.3 Tribal Consultation

DWR completed a NAHC Sacred Lands and Contacts Search in September 2021. The search identified nine Native American tribes, and the Sacred Lands file search was negative.

In January 2022, DWR sent letters via certified mail to nine tribes initiating consultation for the proposed project. Tribes contacted included: Berry Creek; Enterprise; Mooretown; Konkow Valley; Mechoopda Indian Tribe of

Chico Rancheria (Mechoopda); Washoe Tribe of Nevada and California (Washoe); United Auburn Indian Community of the Auburn Rancheria; Tsi Akim Maidu; and Greenville Rancheria. Follow-up emails were sent to individuals after the initial letters and phone calls were made as necessary.

DWR received responses from eight of the nine Tribes identified on the NAHC contacts list. Of those responses, only Berry Creek, Enterprise, Mooretown, and Konkow Valley expressed interest or requested to consult. The Mechoopda, Washoe, and Greenville Rancheria declined to consult. Despite attempts to reach Tsi Akim Maidu by letter, phone, and email, they did not respond to DWR's invitation.

DWR organized a virtual Tribal Informational Meeting on March 10, 2022, which included multiple presentations by fisheries biologists about the Feather River Fisheries Program and provided project-specific information. Tribal representatives from the four Oroville tribes (Berry Creek, Enterprise, Mooretown, and Konkow Valley) attended the meeting. After each presentation, DWR answered questions from tribal representatives.

Field meetings with Mooretown and Konkow Valley were held on February 28, 2022, and April 6, 2022. The project archaeologist and tribal representatives walked the project area, discussed project details and potential concerns, and located previously identified resources. Attendees also discussed the overall importance of the area as a spawning ground, nearby prehistoric fishing villages, and its contemporary use by the tribes for traditional spear fishing permitted by CDFW.

During April 2022, Enterprise, Berry Creek, and Mooretown each confirmed they had no additional concerns. Berry Creek specifically requested to be notified of any inadvertent discoveries. Konkow Valley requested to review a resource protection plan, which DWR provided on April 29, 2022. The protection plan included establishing and physically delineating ESA boundaries and conducting an environmental tailgate training for the contractor and DWR staff prior to project implementation. DWR offered to facilitate access to the construction site for Konkow Valley representatives on a voluntary basis. Konkow Valley confirmed receipt of the proposal on April 30, 2022. If Konkow Valley, or any Oroville tribe, requests to access the project area during implementation, DWR will grant the request and coordinate access.

3.13.4 Findings

Based on tribal consultation and previous ethnographic research, the project area overlaps with a TCR previously defined as a Traditional Cultural Property (TCP). The Downstream of the Dam TCP was previously evaluated for listing on the National Register of Historic Places and recommended eligible under Criterion A (McCarthy 2009). The resource was not evaluated for the CRHR but appears to meet eligibility requirements under Criterion 1 and thus is considered a TCR for purposes of this assessment.

The TCP includes a camp, ceremonial location, and associated fishing values, and has special value to the contemporary Maidu community (McCarthy 2009). The TCP includes a large camp with bedrock millings sites located near the FRFH and the Feather River Nature Center. This camp was located on both banks of the Feather River where the Maidu gathered to fish, pound acorns, and smoke salmon to last through the winter (McCarthy 2004; McCarthy 2009). The spawning grounds in this area were of particularly high value to the Maidu. Fishing and spearing of salmon and sturgeon along the river from the current Nature Center downstream to an area near the Municipal Auditorium is a strongly remembered event by some of the local Maidu elders (McCarthy 2009).

These traditions have been celebrated with the founding of the Oroville Salmon Festival in 1995. This annual event, held at the Nature Center and River Bend Park, is a current expression of traditional activities conducted within and near the project area by local Maidu for many generations. A ceremony celebrating the importance of salmon with prayers, dances, singing, and storytelling is held by the river, and spearing for salmon occurs with permission of CDFW (McCarthy 2009). Preservation of the bedrock milling sites (P-04-003310 and OFD-2021-014-01) within the project area is important to the local Maidu as a reminder of use of this portion of the river before the founding of Oroville and the later construction of the Oroville Dam.

3.13.5 Discussion

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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

listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

–and–

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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 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 Resource 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?

***Less than Significant with Mitigation Incorporated*.** The proposed project would involve construction activities and modifications of the landscape in an area of special significance to the contemporary Maidu community (Downstream of the Dam TCP/TCR). However, the basic nature of the proposed project—improving spawning grounds for salmon—is entirely consistent with the local Maidu interest in this traditionally used species. If the proposed project impeded the Maidu community's ability to access the area for traditional spear fishing during their CDFW permit period, it may cause a substantial adverse change in the significance of the TCR and result in a potentially significant impact. To ensure the proposed project does not interfere with this activity, Mitigation Measure TRI-1 would be implemented, which would reduce the potential impact to a less-than-significant level.

Mitigation Measure TRI-1: Restrictions on Construction during Tribal Salmon Spearing Permit Period and Associated Ceremonies

Unless otherwise agreed to by the Maidu tribes, DWR shall halt all construction activities during the period that Maidu tribes have been permitted by CDFW to conduct traditional salmon spearing, which occurs during the last two weeks of September and overlaps with the Oroville Salmon Festival.

Also associated with the Downstream of the Dam TCP, the two bedrock milling sites (P-04-003310 and OFD-2021-014-01) are integral components of the TCP and have cultural value to the Maidu tribes. The proposed project has the potential to cause a substantial impact to these sites, which would result in a significant impact. To ensure that project activities avoid these associated sites, Mitigation Measure CUL-1 would be implemented to reduce the potential impact to less than significant.

Mitigation Measure CUL-1: Designate Environmentally Sensitive Areas for Avoidance

Refer to Mitigation Measure CUL-1 in Section 3.6, "Cultural Resources," above, for full text.

Although the likelihood of encountering previously undiscovered TCRs or Native American human remains is low for the proposed project, it is possible and could result in a significant impact. Implementing Mitigation Measures CUL-2 and CUL-3 would reduce this potential impact to less than significant.

Mitigation Measure CUL-2: Provide Worker Awareness and Response Training for Undiscovered Historical, Archaeological, and Tribal Cultural Resources

Refer to Mitigation Measure CUL-2 in Section 3.6, "Cultural Resources," above, for full text.

Mitigation Measure CUL-3: Avoidance of Potential Impacts to Undiscovered Burials

Refer to Mitigation Measure CUL-3 in Section 3.6, "Cultural Resources," above, for full text.

3.14 Mandatory Findings of Significance

XXI. MANDATORY FINDINGS OF SIGNIFICANCE	Level of Significance
a) Does the Project have the potential to substantially 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?	Less than Significant with Mitigation Incorporated
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)?	Less than Significant with Mitigation Incorporated
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than Significant with Mitigation Incorporated

3.14.1 Environmental Setting

For a description of the environmental setting for each resource topic evaluated, refer to the "Environmental Setting" subsections in Sections 3.3 through 3.13.

3.14.2 Discussion

a) Does the Project have the potential to substantially 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?

Less than Significant with Mitigation Incorporated. The proposed project would be temporary in nature and involve construction activities to enhance suitable and accessible salmonid spawning habitat conditions in the Feather River. Construction of the proposed project has the potential to

result in significant impacts to air quality and biological, cultural, and tribal cultural resources, but implementing mitigation measures included in Sections 3.4, 3.5, 3.6, and 3.13, respectively, would reduce potential impacts to less-than-significant levels. The proposed project would not substantially 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; reduce or restrict the range of rare or endangered plants or animals; or eliminate important examples of the major periods of California history or prehistory. As discussed in the analyses provided in this initial study, with implementation of proposed mitigation measures and adherence to federal, State, and local regulations, as well as the environmental commitments incorporated as part of the proposed project, project impacts would be less than significant.

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)?

Less than Significant with Mitigation Incorporated. Section 15355 of the State CEQA Guidelines states:

> "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

The proposed project would be implemented within and adjacent to the footprint of the 2014 and 2017 gravel augmentation projects. The proposed project is needed because much of the previously supplemented gravel has mobilized downstream. When viewed in connection with these past projects, the proposed project would contribute to a beneficial impact on salmon spawning habitat.

Project construction has the potential to overlap with the construction period for the proposed Feather River Fish Monitoring Station Project, which would take approximately five weeks to construct sometime between March and September of 2023. The Feather River Fish Monitoring Station Project would be located approximately 5 miles downstream from the proposed project. Because of the distance between the two proposed projects and taking into consideration that the potential construction impacts of both projects would be site specific, short term, and reduced to less-than-significant levels with implementation of mitigation measures and environmental commitments, project impacts would not be cumulatively considerable.

c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

***Less than Significant with Mitigation Incorporated*.** The potential impacts of the proposed project would be site-specific, short-term, construction-related impacts. These potential impacts may include limited adverse effects on air quality and biological, cultural, and tribal cultural resources. But, the proposed project would not include activities or uses that may cause substantial adverse effects on human beings, either directly or indirectly, or on the physical environment. Compliance with applicable local, regional, State, and federal standards, as well as implementing project environmental commitments (refer to Section 2.5, "Environmental Commitments") and proposed mitigation measures (refer to "Discussion" subsections in Sections 3.3through 3.13.) would result in less-than-significant impacts.

Chapter 4. References

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