SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT

Draft Supplemental Environmental Impact Report

Prepared for
California Department of Water Resources

January 2026

ESA

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January 2026

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EXECUTIVE SUMMARY

ES.1 Introduction

The California Department of Water Resources (DWR), as lead agency under the California Environmental Quality Act (CEQA), proposes to implement the Sunset Weir and Pumps Fish Passage Project (Proposed Project). This draft supplemental environmental impact report (Draft SEIR) was prepared pursuant to CEQA as a supplement to the State Water Resources Control Board (State Water Board) Restoration Projects Statewide Order Program Environmental Impact Report (EIR) (State Clearinghouse No. 2019100230), which was prepared by the State Water Board to analyze the "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide."

The Proposed Project was developed to:

- Restore natural, volitional passage conditions for protected migratory fish species through the removal of the Sunset Weir.
- Replace and upgrade the Sunset Pump Station to operate at a lower surface water elevation and rehabilitate existing pump discharge pipelines.
- Install and operate new fish screens at the Sunset Pump Station that meet current State and federal standards for protecting fish.
- Stabilize the left bank downstream of the weir.

See Chapter 2, "Project Description," for a detailed description of the Proposed Project's location and restoration elements, goals, and objectives.

ES.2 Eligibility for Coverage under the Statewide Restoration General Order and Program EIR

In 2022, the State Water Board issued Order WQ 2022-0048-DWQ, "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide," also known as the Statewide Restoration General Order (SRGO, or Order). The purpose of the SRGO is as follows (State Water Board 2022: Section A.1):

> *…to expedite consultation, authorization, and permitting of restoration projects intended to help the State of California achieve its habitat restoration, species recovery, and water quality improvement goals.*

The SRGO provides programmatic authorization for large-scale habitat restoration projects that are consistent with certain eligibility criteria (outlined in Final Attachment A to the SRGO and Appendix E to the Final SRGO Program EIR, "Description and Eligibility").

To be eligible for the programmatic coverage described above, a project must be a "restoration project" as defined in Section V of the SRGO. The SRGO defines a "qualifying restoration project" as follows (State Water Resources Control Board 2022: Section V):

> *[A project] that would result in a net increase in aquatic or riparian resource area functions and/or services through implementation of the eligible project types, relevant general protection measures (GPMs), and consideration of design guidelines, summarized below and described in detail in Attachment A, Order Description and Eligibility.*

In addition, as stated in Chapter 1 of the Final SRGO Program EIR, a restoration project covered under the SRGO may include multiple benefits, such as groundwater recharge, recreation, flood management, water quality improvement, and/or adaptation to climate change.

The State Water Board prepared a program EIR to evaluate the impacts of project types covered by the SRGO and associated measures to protect species and the environment. The Final SRGO Program EIR was certified in September 2022. To qualify for coverage under the SRGO, projects must meet the appropriate programmatic sideboards, general protection measures, species protection measures, and mitigation measures listed in the SRGO Program EIR's resource area impact sections.

The Proposed Project meets the definition of a "qualifying restoration project." It is a restoration project that includes removal of the Sunset Weir; restoration of the Feather River near the weir; replacement and upgrade of the Sunset Pump Station and installation of fish screens; and stabilization of the left bank downstream of the weir.

As discussed further in Chapter 1, "Introduction," the Proposed Project meets the eligibility criteria, design guidelines, and other protection and mitigation measures outlined in the SRGO (Attachment A, "Description and Eligibility") and the Final SRGO Program EIR (Appendix F, "Species Protection Measures," and Appendix J, "Mitigation Monitoring and Reporting Program"). The Proposed Project also meets the CEQA requirement to incorporate applicable mitigation measures and alternatives developed in the Final SRGO Program EIR into the Proposed Project, per CEQA Guidelines Section 15168(c)(3). Given the Proposed Project's eligibility for the SRGO, this Draft SEIR would meet the objective of the SRGO to expedite the consultation, authorization, and permitting of restoration projects intended to help the State of California achieve its habitat restoration and species recovery goals.

ES.3 Goals and Objectives of the Proposed Project

The Sunset Weir provides a hydraulic control for Sutter Extension Water District (SEWD) to divert water from the Feather River at the Sunset Pump Station; the weir also impedes passage for protected migratory fish species, particularly Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run Chinook salmon (listed as threatened under the federal and California endangered species acts), Southern Distinct Population Segment green sturgeon (*Acipenser medirostris*) (listed as threatened under the federal Endangered Species Act), and Central Valley steelhead (*Oncorhynchus*

mykiss) (listed as threatened under the federal Endangered Species Act). To address both fish passage and water supply, the goals and objectives of the Proposed Project are:

Goal 1: Accommodate passage of protected migratory fish species at Sunset Weir.

Supporting Objectives:

1. Remove physical barriers (i.e., Sunset Weir) to upstream migration of adult green sturgeon and salmonids.
2. Provide a stable transition from upstream to downstream and restore hydraulic/riverine conditions (e.g., depth, velocity, drop heights) conducive to adult and juvenile green sturgeon and salmonid passage.
3. Minimize predation and disorientation of downstream-migrating juvenile green sturgeon and salmonids.
4. Minimize potential for impingement of juvenile green sturgeon and salmonids at the Sunset Pumps intake facility by meeting current fish screen criteria.

Goal 2: Preserve overall water delivery system stability and reliability with no change in SEWD's capacity and operational flexibility to deliver water to its customers.

Supporting Objectives:

1. Meet optimal submergence criteria for pumps to continue to divert water from the Feather River under lower head conditions following removal of Sunset Weir.
2. Minimize disruption to SEWD's customers during construction.
3. Consider long-term operation and maintenance in the design, including sediment dynamics, at the new screens/pumps.

ES.4 Proposed Project Location

The Proposed Project is located on and in the vicinity of the Feather River approximately 2 miles southeast of Live Oak in Sutter and Yuba counties, California. The western boundaries of the main site for the Sunset Weir removal, pump station replacement, and left bank repair activities associated with the Proposed Project are defined by portions of the west levee of the Feather River, the western bank of SEWD's Main Canal, and the right (west) bank of the Feather River. The site's eastern boundaries are defined by the left (east) bank of the Feather River and an area extending up to 100 feet landward, depending on location. The northern and southern boundaries are defined by the Feather River and adjacent SEWD property and agricultural land (see **Figures 2-1** through **2-5** in Chapter 1, Introduction").

ES.5 Summary of the Project

The Proposed Project would comprise three main elements: weir removal and river restoration, replacement and upgrade of the pump station and installation of new fish screens, and stabilization of the left bank failure area. These elements are summarized below and described in more detail in Chapter 1, "Introduction."

ES.5.1 Sunset Weir Removal and Feather River Restoration

Removal of the Sunset Weir would restore unimpeded passage so that migratory fish could access the 28.5 miles of the Feather River from the Sunset Weir (River Mile 38.5) upstream to the existing Feather River Fish Barrier Dam (River Mile 67). This includes access to documented spawning habitat for green sturgeon from the Thermalito Afterbay Outlet pool upstream to the Fish Barrier Dam; historically, this habitat was accessible only in years with high basin discharge (Seesholtz et al. 2014).

Weir removal would also allow for a more natural riverine morphology with variable and distinct habitat types (e.g., deep pools and shallow riffles), as compared to the current backwatered and more slough-like conditions that persist for miles upstream of the existing weir; in this way, weir removal would restore natural fish passage conditions for the Feather River channel. Weir materials would be removed and the weir footprint would be restored to match the existing natural channel bed. Suitable portions of the weir material and material imported for the construction of temporary access ramps and work pads would be used to partially fill the large scour hole in the river immediately downstream of the weir and/or in the left bank stabilization. The large scour hole is expected to fill naturally with river sediments (e.g., gravel) once the weir is removed, thereby creating a more natural morphology and a cap over any placed weir material.

ES.5.2 Sunset Pump Station Replacement and Upgrade

Concurrent with weir removal and river restoration, the Sunset Pumps would be replaced and upgraded to be able to operate under the lowered riverine hydraulic conditions to meet existing water supply obligations. This would involve replacing the pumps and motor units and slip-lining[1] or replacing associated discharge piping, constructing a new cast-in-place concrete structure (i.e., wet well) that would house the pumps and motor units, and installing contemporary fish screens that meet current criteria.

ES.5.3 Left Bank Stabilization

In the fall of 2019, a portion of the Sunset Weir was damaged by higher flows, concentrating flows on the left (east) bank of the Feather River and resulting in rapid erosion of the channel bank. The damaged portion of the weir was repaired and reinforced, though the erosion initiated by this event has continued to progress. Bank stabilization work on the left bank would be implemented as part of the Proposed Project. The work would involve flattening the eroding bank to a 3 horizontal to 1 vertical (3:1) slope and protecting most of it against further failure and erosion using vegetated rock slope protection and bioengineering methods. The toe and lower portion of the vegetated rock slope protection would be stabilized with rock slope protection up to the ordinary high-water mark, with longitudinal peak stone toe protection, and with willow pole baffles planted perpendicularly to the flow. A new gravel construction access road would be constructed along the top of bank.

[1] Slip-lining is a pipe rehabilitation process in which a smaller diameter pipe is inserted into an existing pipe.

All or a portion of the removed weir material, as well as any surplus gravel for constructing a temporary work pad, would be used to fill the low points and partially build up a benched surface within the circular, scoured left bank failure area adjacent to the main channel. The filled portion of the left bank failure area would be covered or capped with appropriate sediments and/or soils and revegetated. As feasible, the material cut from the banks to implement the 3:1 slope would be used for this purpose, otherwise, some material would be imported.

ES.6 Alternatives

Chapter 5, "Alternatives," describes alternatives to the Proposed Project and compares the environmental impacts of those alternatives. This chapter also describes alternatives that were considered but eliminated from detailed consideration.

Two alternatives were identified for further evaluation in the Draft SEIR:

- No Project Alternative.
- Proposed Project with Overhead Electrical Cable Trays Alternative.

Under the No Project Alternative, none of the Proposed Project elements would be constructed or operated and maintained. Specifically, the Sunset Weir would not be removed; the Sunset Pump Station replacement and upgrade would not occur; and the left bank would not be stabilized. Also, the scour hole downstream of the weir would not be filled to prevent scour and provide channel stability.

The No Project Alternative would not address fish passage and, as a result, could require some change in the flow released from the Thermalito Afterbay to the Feather River to increase flows sufficient to achieve fish passage over the weir. Long-term operations and maintenance activities associated with the Proposed Project would not occur under the No Project Alternative; however, operations and maintenance of the existing Sunset Pump Station and fish screens would continue.

The No Project Alternative would not result in any short-term and temporary construction-related impacts on the physical environment or long-term impacts from constructed facilities and operation and maintenance of those facilities, which would be a reduction in impacts compared to the Proposed Project. The No Project Alternative would not disturb the historical resource, a unique archaeological resource, and a Tribal cultural resource identified in the Proposed Project site. Energy use at the Sunset Pump Station would be less than under the Proposed Project. The general protection measures, species protection measures, and SRGO mitigation measures from the Final SRGO Program EIR that would apply to the Proposed Project to reduce the Proposed Project's effects would not apply to the No Project Alternative.

The No Project Alternative would not achieve one of the Proposed Project's two goals, to accommodate passage of protected migratory fish species at the Sunset Weir, nor any of the specific supporting objectives associated with that goal.

The Proposed Project with Overhead Electrical Cable Trays Alternative would include the construction of overhead electrical cable trays instead of an underground duct bank for the SEWD Pump Station, as proposed. This alternative would improve fish passage with the removal of a physical barrier and would still include other components of the Proposed Project such as the replacement and upgrade of the Sunset

Pump Station, the installation and operation of new fish screens at the pump station, and left bank stabilization downstream of the weir.

Similar to the Proposed Project, the Proposed Project with Overhead Electrical Cable Trays Alternative would result in short-term and temporary construction-related impacts and impacts from constructed facilities and operation and maintenance of those facilities from the removal of the Sunset Weir, Sunset Pump Station replacement, installation and operation of new fish screens at the Sunset Pump Station, and left bank stabilization downstream of the weir.

The Proposed Project with Overhead Electrical Cable Trays Alternative would reduce the amount of excavation required for construction. With an overhead cable tray and a reduction in total ground disturbance, overall impacts on cultural and Tribal cultural resources potentially would be less than those of the Proposed Project. A decrease in excavation compared to the Proposed Project would reduce the chances of encountering known and previously unrecorded cultural and Tribal cultural resources.

The Proposed Project with Overhead Electrical Cable Trays Alternative would increase long-term maintenance as compared to the Proposed Project because the cable tray would require cleaning, upkeep, and inspection. In addition, the alternative may result in an increase in safety risks because of the exposed electrical cables and support structure, both of which could be damaged from floods, storms, or other debris and could put workers at risk of injury. The exposed cable tray structure would also be more susceptible to vandalism and may present an obstruction to site access.

The Proposed Project with Overhead Electrical Cable Trays Alternative would achieve the Proposed Project's two goals and supporting objectives. The alternative would remove a physical barrier; would provide a stable transition from upstream to downstream and sustain hydraulic/riverine conditions conducive to green sturgeon and salmonid passage; would minimize predation and disorientation of downstream-migrating juvenile green sturgeon and salmonids; would meet hydraulic criteria for fish screens; would meet minimum submergence criteria for pumps to continue diverting water; and would minimize disruption to SEWD's customers during construction and improve sediment dynamics at the Proposed Project site. The Proposed Project with Overhead Electrical Cable Trays Alternative is identified as the environmentally superior alternative.

ES.7 Potential Areas of Controversy and Concern

DWR prepared and published a Notice of Preparation (NOP) of an SEIR on August 1, 2024 (State Clearinghouse No. 2024080016). The NOP was circulated to the public and to federal, State, and local agencies and other interested parties to solicit comments on the Proposed Project. The public comment period for the NOP closed on August 30, 2024. In addition to the public and agency comment period, a public scoping meeting was held in person with a virtual option on August 15, 2024, at the Yuba City Council Chambers.

No comments were received at the scoping meeting. Concerns raised in response to the NOP were considered during preparation of the Draft SEIR. The scoping comments are included in **Appendix A** of this document.

ES.8 Draft Environmental Impact Report

This Draft SEIR is available to federal, State, and local agencies and interested organizations and individuals who may want to review and comment on the analysis in this document. Publication of the Draft SEIR marks the beginning of a 45-day public review period. The 45-day public review period for the Proposed Project extends from Thursday, January 8, 2026, through Monday, February 23, 2026, ending at 5 p.m. During the public comment period, written comments should be delivered to:

California Department of Water Resources
Attn: Kevin Marr, Environmental Scientist
P.O. Box 942836
Sacramento, CA 94236-0001

Email: Kevin.Marr@water.ca.gov

Please use "Comments on Sunset Weir and Pumps Fish Passage Draft SEIR" in the subject line. Also, if submitting comments on behalf of an agency, Tribal group, or organization, please include the name of a contact person and the name of the group from which the comments are coming. All comments received, including names and addresses, will become part of the official administrative record and will be available to the public.

The Draft SEIR is available for public review at Sutter Extension Water District, 4525 Franklin Road, Yuba City, CA 95993. An electronic copy of the document is available on DWR's website via the following link:

https://water.ca.gov/News/Public-Notices

DWR will also hold a public meeting on Thursday, February 5, 2026, at 5 p.m. at the Yuba City Council Chambers, 1201 Civic Center Boulevard, Yuba City, CA 95993, to receive comments on the adequacy of the analysis included in the Draft SEIR. The meeting can also be attended virtually; to join virtually, please register at the following link:

Registration link: https://bit.ly/SunsetWeirCEQAMtg

Webinar ID: 813 6444 5062

Dial in number: (888) 788 0099

ES.9 Summary of Impacts

Table ES-1 presents a summary of the impacts and mitigation measures identified for the Proposed Project evaluated in this Draft SEIR. The complete impact statements and mitigation measures are presented in the resource sections in Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures." The level of significance for each impact was determined using thresholds of significance presented in each resource section of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the standards of significance; less-than-significant impacts would not exceed the standards of significance. For each impact identified, Table ES-1 presents the following information:

- The environmental impact.

- The level of significance before general protection measures, species protection measures, or mitigation measures for the Proposed Project and the alternatives.
- Recommended general protection measures, species protection measures, or mitigation measures for the Proposed Project and the alternatives.
- The level of significance after general protection measures, species protection measures, or mitigation for the Proposed Project and the alternatives.

In the resource sections of Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures," the potential impacts of implementation of the Proposed Project were evaluated for two impact types: construction activities and constructed facilities and operations and maintenance activities. In some cases, the significance determination varied across impact type (e.g., less than significant with general protection measures for construction activities, but less than significant for constructed facilities and operation and maintenance). The impacts in Table ES-1 summarize the most conservative significance determination for each impact threshold, to be representative of the potential impact of implementing the Proposed Project as a whole.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Section	Impact	Significance Before Mitigation: Proposed Project	Significance Before Mitigation: No Project Alternative	Significance Before Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative	General Protection Measure, Species Protection Measure, Mitigation Measure	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.4 Agriculture	**3.4-1:** Implementation of the Proposed Project could convert Special Designation Farmland to non-agricultural use or conflict with existing zoning for agricultural use or a Williamson Act contract.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.4-2: Implementation of the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Special Designation Farmland to non-agricultural use.	LTSG	LTSG+	LTSG	General Protection Measures GPM-8, GPM-10 through GPM-12, GPM-15, and VHDR-1 through VHDR-6. (See Appendix B.)	LTSG	LTSG+	LTSG
3.5 Air Quality and Greenhouse Gas Emissions	**3.5-1:** Implementation of the Proposed Project could conflict with or obstruct implementation of an applicable air quality plan.	LTSG	NI	LTSG	General Protection Measures GPM-6 and GPM-12. (See Appendix B.)	LTSG	NI	LTSG
	3.5-2: Implementation of the Proposed Project could 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.	LTSM	NI	LTSM	General Protection Measures GPM-6 and GPM-12. (See Appendix B.) Final SRGO Program EIR Mitigation Measure AIR-1. (See Appendix B.) **SEIR Mitigation Measure 3.5-1: Clean Construction Equipment.** Construction contractors for the Proposed Project shall be required to use all off-road construction equipment (land- and water-based) that meet CARB and EPA's Tier 4 Final emission standards. This requirement shall be specified in contract documents.	LTSM	NI	LTSM
	3.5-3: Implementation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.	LTSM	NI	LTSM	General Protection Measures GPM-6 and GPM-12. (See Appendix B.) Final SRGO Program EIR Mitigation Measures AIR-1 and AIR-2. (See Appendix B.) SEIR Mitigation Measure 3.5-1: Clean Construction Equipment (see above).	LTSM	NI	LTSM
	3.5-4: Implementation of the Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTSG	NI	LTSG	General Protection Measure IWW-13. (See Appendix B.)	LTSG	NI	LTSG
	3.5-5: Implementation of the Proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	LTS	NI	LTS	Final SRGO Program EIR Mitigation Measures AIR-1 through AIR-3. (See Appendix B.)	LTS	NI	LTS
3.6 Biological Resources–Terrestrial	**3.6-1:** Implementation of the Proposed Project could adversely affect habitat for special-status plant species.	LTSG/S	NI	LTSG/S	General Protection Measures GPM-5, GPM-7 through GPM-9; and VHDR-1 and VHDR-2. Species Protection Measures PLANT-1 through PLANT-4. (See Appendix B.)	LTSG/S	NI	LTSG/S
	3.6-2: Implementation of the Proposed Project could adversely affect habitat for special-status wildlife species.	LTSG/S	NI	LTSG/S	General Protection Measures GPM-1 through GPM-7, GPM-10, GPM-13, and GPM-15; WQHM-1, WQHM-2, and WQHM-4 through WQHM-6; and VHDR-1 through VHDR-5. Species Protection Measures SPM-1 through SPM-3[2] and SPM-4 through SPM-6; BIRD-1 through BIRD-5; REP-1 through REP-3, REP-5, and REP-6; INVERT-3; and MAM-1 through MAM-5. (See Appendix B.)	LTSG/S	NI	LTSG/S
	3.6-3: Implementation of the Proposed Project could result in adverse effects on riparian habitat or sensitive natural communities.	LTSG	NI	LTSG	General Protection Measures GPM-1, GPM-2, and GPM-4 through GPM-15; WQHM-4 and WQHM-6; and VHDR-2 and VHDR-3. (See Appendix B.)	LTSG	NI	LTSG
	3.6-4: Implementation of the Proposed Project could result in adverse effects on State and federally protected wetlands through direct removal, hydrological interruption, or other means.	LTSG/S	NI	LTSG/S	General Protection Measures GPM-1, GPM-5, GPM-7 through GPM-11, GPM-14, and GPM-15; WQHM-1 through WQHM-6; IWW-1 through IWW-3; IWW-6, IWW-8, and IWW-13; and VHDR-6 through VHDR-8. Species Protection Measure PLANT-6. (See Appendix B.)	LTSG/S	NI	LTSG/S
	3.6-5: Implementation of the Proposed Project could interfere with the movement of native resident and migratory wildlife species.	LTSG/S	LTSG/S+	LTSG/S	General Protection Measures GPM-1 through GPM-7. Species Protection Measures SPM-3 through SPM-6; REP-4 through REP-6; BIRD-2 through BIRD-5; MAM-1 through MAM-5; and INVERT-3. (See Appendix B.)	LTSG/S	LTSG/S+	LTSG/S
	3.6-6: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources.	LTSG/S	NI	LTSG/S	General Protection Measures GPM-1 through GPM-15; WQHM-1 through WQHM-6; IWW-1 through IWW-3, IWW-6, IWW-8, and IWW-13; and VHDR-1 through VHDR-8. Species Protection Measures SPM-1 through SPM-3[3] and SPM-4 through SPM-6; BIRD-1 through BIRD-5; REP-1 through REP-6; INVERT-3; MAM-1 through MAM-5; and PLANT-1 through PLANT-4 and PLANT-6. (See Appendix B.)	LTSG/S	NI	LTSG/S

[2] To protect northwestern pond turtle, for activities that involve in-water work, work would be avoided from October 1 to March 31.

[3] To protect northwestern pond turtle, for activities that involve in-water work, work would be avoided from October 1 to March 31.

SU—Significant and unavoidable; LTS—Less than significant; NI—No impact; LTSG = less than significant with implementation of the general protection measures; LTSG/S = less than significant with implementation of the general protection measures and species protection measures; LTSM = less than significant with implementation of the SRGO mitigation measures; - = Impact would be less severe than under the Proposed Project; + = Impact would be more severe than under the Proposed Project.

Section	Impact	Significance Before Mitigation: Proposed Project	Significance Before Mitigation: No Project Alternative	Significance Before Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative	General Protection Measure, Species Protection Measure, Mitigation Measure	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.7 Biological Resources–Aquatic	**3.7-1:** Implementation of the Proposed Project could result in substantial adverse effects on special-status fish species directly, or indirectly through habitat modifications.	LTSG/S	NI	LTSG/S	General Protection Measures GPM-2, GPM-4, GPM-5, GPM-10; IWW-1 through IWW-6, IWW-8 through IWW-10, IWW-12, IWW-13; WQHM-1 through WQHM-6; and VHDR-1. Species Protection Measures SPM-3 and FISH-1 through FISH-4. (See Appendix B.)	LTSG/S	NI	LTSG/S
	3.7-2: Implementation of the Proposed Project could result in substantial adverse direct effects on the movement of native resident or migratory fish.	LTSG/S	LTSG/S+	LTSG/S	General Protection Measures GPM-2, GPM-4, GPM-5, and GPM-10; IWW-1 through IWW-6, IWW-8 through IWW-10, and IWW-12; WQHM-1 through WQHM-6; and VHDR-1. Species Protection Measures SPM-3 and FISH-1 through FISH-4. (See Appendix B.)	LTSG/S	LTSG/S+	LTSG/S
3.8 Cultural Resources	**3.8-1:** Implementation of the Proposed Project could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.	NI	NI	NI	None required.	NI	NI	NI
	3.8-2: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	SU	NI	SU-	Final SRGO Program EIR Mitigation Measure CUL-3. (See Appendix B.) **SEIR Mitigation Measure 3.8-1: Prepare a Historic Properties Treatment Plan.** Before beginning any ground-disturbing activities, DWR shall prepare a Historic Properties Treatment Plan (HPTP), which ensures the minimization of adverse impacts on Indigenous Resource P-51-000523 from implementation of the Project, as feasible, and addresses any adverse impacts that cannot be avoided in a culturally appropriate manner. The HPTP will require the following protective measures included as Mitigation Measures 3.8-1a through 3.8-1e: (a) pre-construction treatment; (b) construction avoidance and fencing measures; (c) cultural resources and Tribal cultural resources awareness training; (d) archaeological and Tribal monitoring during construction; and (e) an inadvertent-discovery plan. DWR as the CEQA lead agency will coordinate with consulting California Native American Tribes to solicit recommendations regarding Native American resources including Tribal cultural resources (TCRs) and Traditional Cultural Properties (TCPs) for the HPTP (see also Mitigation Measure 3.13-1). • **Mitigation Measure 3.8-1a: Pre-construction Treatment.** The Project may cause a direct impact on Indigenous Resource P-51-000325. The HPTP will include a chapter that will provide treatment options. The HPTP will document the results of past research; determine the ability of the resource to contribute to research themes, questions, and data requirements; and include a plan for additional subsurface investigation, and treatment, including data recovery or excavation, as appropriate. Treatment for TCRs/TCPs will be developed in coordination with consulting Tribes (see **Mitigation Measure 3.13-1a**). • **Mitigation Measure 3.8-1b: Construction Avoidance and Fencing Measures.** The HPTP will include a chapter on fencing and avoidance measures. The preferred method of avoiding impacts is to relocate construction-related activities to avoid significant resources. Fencing and/or monitoring to ensure that resources are protected will be necessary. To prevent inadvertent adverse impacts on Indigenous Resource P-51-000325, fencing may be placed in areas to be avoided, and geotechnical fabric may be placed in staging areas to further ensure that no inadvertent adverse impacts during construction occur. The Project archaeologist shall designate the locations and types of physical barriers needed to adequately protect resources from construction activities in coordination with the consulting California Native American Tribes. • **Mitigation Measure 3.8-1c: Cultural Resources and Tribal Cultural Resources Awareness Training.** The HPTP will include a chapter regarding a cultural resources and Tribal cultural resources awareness training program. All construction personnel on the Project will undergo training sessions before starting work. Only personnel who have received the training will be allowed to enter the Project site. Training will include a presentation developed in coordination with consulting California Native American Tribes. Topics may include the presence and nature of cultural resources and Tribal cultural resources within the Project site; the laws protecting these resources and associated penalties; the basics for identifying cultural resources; and the procedures to follow should they discover cultural resources during Project-related work. Consulting California Native American Tribes shall be provided an opportunity to present the Tribal perspective at each training session. Associated written materials will be provided to the construction manager, construction crews, and field personnel as appropriate.	SU	NI	SU-

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					• **Mitigation Measure 3.8-1d: Archaeological and Tribal Monitoring during Construction.** The HPTP will include a chapter detailing the areas to be monitored during construction. Monitoring locations and coordination protocol will be designated by the Project archaeologist in coordination with the consulting California Native American Tribes (see **Mitigation Measure 3.13-1b**). The Project archaeologist and consulting California Native American Tribes will be provided a general construction schedule and a representative from each consulting California Native American Tribe will be invited to monitor ground-disturbing activities with a minimum 24-hour/1-business-day advance notification of activities in areas designated for monitoring. If buried or previously undocumented resources are discovered, appropriate treatment will be completed in accordance with the HPTP and these mitigation measures. The HPTP should provide detailed guidance for archaeological and Tribal monitoring including: o Person(s) responsible for conducting monitoring activities; o Person(s) responsible for overseeing and directing the monitors; o Safety protocols and requirements; o Communication protocols including regular meetings, process for routine communications, and process for notifying key staff, Tribes, DWR, and federal partners of unanticipated discoveries; o How the monitoring shall be conducted including timing, duration, and activities, and required format and content of monitoring reports; o Means and methods of identifying and managing resources encountered (e.g., left in place, temporary collection, reburial, identification, and documentation); o Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; o Protocol for pausing and/or stopping work and notifications in case potential cultural resources and/or Tribal cultural resources are encountered; o Authority for archaeological and Tribal monitors to pause and/or stop work if potential cultural resources and/or Tribal cultural resources are encountered; o Methods to ensure security of potential cultural resources or Tribal cultural resources; o A protocol for notifying local authorities (i.e., Sheriff, Police) should site looting and other illegal activities occur during construction; o A protocol for notifying the County Coroner should human remains be found, per California Health and Safety Code Section 7050.5; o The archaeologist in coordination with consulting Tribes may adjust the frequency of the monitoring (e.g., from continuous to intermittent) based on the conditions and professional judgment regarding the potential to impact resources; and o Contact information for all responsible personnel identified in the Plan.			

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					• **Mitigation Measure 3.8-1e: Inadvertent-Discovery Plan.** If cultural materials are encountered during Project construction or operation, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. DWR and the Project archaeologist shall be immediately informed of the discovery. The Project archaeologist shall inspect the discovery and notify DWR of their initial assessment. If the resource is potentially indigenous in origin, DWR shall coordinate with consulting California Native American Tribes to assess the find and determine whether it is potentially a Tribal cultural resource. If DWR determines, based on recommendations from the Project archaeologist and consulting California Native American Tribes, that the resource is indigenous, or that the resource may qualify as a historical resource (per CEQA Guidelines Section 15064.5), a unique archaeological resource (per PRC Section 21083.2), or a Tribal cultural resource (per PRC Section 21074), then the resource shall be avoided if feasible (see **Mitigation Measure 3.13-1c**). If avoidance of an identified indigenous resource is not feasible, DWR shall consult with the Project archaeologist, consulting California Native American Tribes, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts on the resource pursuant to PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If any such resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission. Once treatment measures have been determined, DWR shall prepare and implement the measures of the HPTP that outline the treatment measures for the resource. Treatment measures typically consist of the following steps: o Determine whether the resource qualifies as a historical resource (per CEQA Guidelines Section 15064.5), a unique archaeological resource (per PRC Section 21083.2), or a Tribal cultural resource (per PRC Section 21074) through analysis that could include additional historical or ethnographic research, evaluative testing (excavation), or laboratory analysis. o If the resource qualifies as a historical resource (per CEQA Guidelines Section 15064.5) and/or a unique archaeological resource (per PRC Section 21083.2), implement measures for avoiding or reducing impacts such as the following: – Modify the project to avoid impacts on resources. – Plan parks, green space, or other open space to incorporate resources. – Recover the scientifically consequential information from the archaeological resource before any excavation at the resource's location. This typically consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the project. – Develop and implement interpretive programs or displays. o If potential human remains are encountered, all work will halt within a minimum of 100 feet (or greater agreed-upon distance) of the find and the construction contractor will immediately contact DWR and SBFCA. DWR, SBFCA, and/or the on-site archaeologist will contact the appropriate County coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines that the remains are Native American, the coroner will contact the NAHC. As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendant (MLD) will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98. • **Mitigation Measure 3.8-1f: Annual Monitoring Program.** The HPTP described in Mitigation Measure 3.8-1 will include a chapter to establish an annual monitoring program to address locations where there may be impacts from operations and maintenance of the Proposed Project. The Project archaeologist and consulting California Native American Tribes will provide input on areas to be observed on an annual basis. If buried or previously undocumented resources are discovered, appropriate treatment will be completed in accordance with Mitigation Measure 3.8-1 and any other relevant provisions in the HPTP.			
	3.8-3: Implementation of the Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries.	SU	NI	SU-	Final SRGO Program EIR Mitigation Measure CUL-4. (See Appendix B.)	SU	NI	SU-

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3.9 Energy	**3.9-1:** Implementation of the Proposed Project could result in substantial inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.9-2: Implementation of the Proposed Project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	LTS	NI	LTS	None required.	LTS	NI	LTS
3.10 Hazards and Hazardous Materials	**3.10-1:** Implementation of the Proposed Project could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a significant hazard to the public or the environment.	LTSG	NI	LTSG	General Protection Measures GPM-6, GPM-7, GPM-10 through GPM-12, and GPM-14; WQHM-1, WQHM-2, and WQHM-4 through WQHM-6; IWW-1 through IWW-3, IWW-6, and IWW-13; and VHDR-6. (See Appendix B.)	LTSG	NI	LTSG
	3.10-2: Ground-disturbing activities for construction of the Proposed Project could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials.	PS	NI	PS	General Protection Measures GPM-6, GPM-7, GPM-10 through GPM-12, and GPM-14; WQHM-1, WQHM-2, and WQHM-4 through WQHM-6; IWW-1 through IWW-3, IWW-6, and IWW-13; and VHDR-6. (See Appendix B.) Final SRGO Program EIR Mitigation Measures HAZ-1 through HAZ-3. (See Appendix B.)	LTSM	NI	LTSM
	3.10-3: Implementation of the Proposed Project could interfere with emergency response access or with an adopted emergency response or evacuation plan.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.10-4: Implementation of the Proposed Project could create vector habitat that would pose a significant public health hazard.	LTS	NI	LTS	None required.	LTS	NI	LTS
3.11 Hydrology and Water Quality	**3.11-1:** Implementation of the Proposed Project could result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.	LTSG	NI	LTSG	General Protection Measures GPM-10 through GPM-12; WQHM-1 through WQHM-6; IWW-1 through IWW-4, IWW-6, and IWW-10 through IWW-13; and VHDR-2 through VHDR-4 and VHDR-6 through VHDR-8. (See Appendix B.)	LTSG	NI	LTSG
	3.11-2: Implementation of the Proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan.	LTSG	NI	LTSG	General Protection Measure IWW-6. (See Appendix B.)	LTSG	NI	LTSG
	3.11-3: Implementation of the Proposed Project could substantially alter the existing drainage pattern of a 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 that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.	LTSG	LTSG+	LTSG	General Protection Measures WQHM-1 through WQHM-3; IWW-11; and VHDR-4. (See Appendix B.)	LTSG	LTSG+	LTSG
3.12 Recreation	**3.12-1:** Implementation of the Proposed Project could directly impair, degrade, or eliminate recreational resources, facilities, and opportunities.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.12-2: Implementation of the Proposed Project could alter recreational resources or facilities or require the construction or expansion of recreational facilities that could result in environmental impacts.	LTSG	NI	LTSG	General Protection Measures GPM-6, GPM-7, and GPM-10 through GPM-15; WQHM-1, WQHM-2, and WQHM-4 through WQHM-6; IWW-1 through IWW-3, IWW-5, IWW-6, IWW-8, and IWW-13; and VHDR-1 through VHDR-4 and VHDR-6. (See Appendix B.)	LTSG	NI	LTSG
	3.12-3: Implementation of the Proposed Project could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated.	LTS	NI	LTS	None required.	LTS	NI	LTS

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3.13 Tribal Cultural Resources	**3.13-1:** Implementation of the Proposed Project could cause a substantial adverse change in the significance of a Tribal cultural resource, as defined in PRC Section 21074.	SU	NI	SU-	Final SRGO Program EIR Mitigation Measures TCR-1 and TCR-2. (See Appendix B.) SEIR Mitigation Measure 3.8-1 (see above). **SEIR Mitigation Measure 3.13-1: Tribal Monitoring, Identification, Treatment, and Reporting of Tribal Cultural Resources (TCRs) and Traditional Cultural Properties (TCPs).** California Native American Tribes that are traditionally and culturally affiliated with the Proposed Project site have expertise concerning their TCRs/TCPs (California PRC Section 21080.3.1). DWR will coordinate with consulting Tribes on development of the Historic Properties Treatment Plan (HPTP) to avoid or minimize impacts to potential TCRs/TCPs (see **Mitigation Measure 3.8-1**). Prior to continuance of construction and associated activities that may result in damage to or destruction of TCRs/TCPs, the following performance standards shall be met as included in Mitigation Measures 3.13-1a through 3.13-1e: • **Mitigation Measures 3.13-1a: Treatment of TCRs/TCPs.** Consistent with **Mitigation Measure 3.8-1a**, the HPTP should include measures to conduct additional subsurface investigations up to the proposed extent of ground disturbance and minimize impacts where feasible. Additional measures should be identified to treat TCRs/TCPs with culturally appropriate dignity in consideration of Tribal cultural values including recovery and reburial of the resource(s) on-site or in a feasible off-site location preserved in perpetuity and may include: o Protection of the cultural character and integrity of the resource; o Protection of the traditional use of the resource; o Protection of the confidentiality of the resource; and o Protection of the resource. • **Mitigation Measure 3.13-1b: Tribal Monitoring.** DWR will contract for Tribal monitoring at sensitive locations with consulting culturally affiliated Native American Tribes including compensation for professional services. DWR and their contractors shall coordinate with consulting Tribes to support identification of TCRs including providing a schedule of project-related activities as early as possible (recommended minimum 2 months prior to start of work) to identify activities and areas consulting Tribes request to monitor. o To track the implementation of this measure, Tribes providing monitoring services shall submit monitoring logs to DWR or contracted consultant to document field-monitoring activities. o Timing, duration, means, and methods of monitoring will be coordinated and agreed upon by DWR and consulting Tribes providing monitoring services consistent with **Mitigation Measure 3.8-1d**. o In the event the Tribal monitor does not report to the job site at the scheduled time after receiving sufficient notice (recommended at least 24 hours/1 business day in advance), construction activities may proceed without Tribal monitoring. o Potential TCRs should not be handled without explicit permission from the Tribe(s) providing monitoring services. All potential TCRs should be respected consistent with Tribal protocols. • **Mitigation Measure 3.13-1c: Inadvertent Discovery.** If potential Tribal cultural resources are encountered, all construction activities within a minimum of 100 feet (or greater agreed-upon distance) will halt to safely assess the find consistent with **Mitigation Measure 3.8-1e**. o Each identified resource will be recorded and evaluated for California Register and National Register eligibility through application of established eligibility criteria (California Code of Regulations 15064.636, PRC Section 21074 and CFR Part 63 respectively) in consultation with culturally affiliated Native American Tribes. In the event of human remains, DWR will consult with the MLD(s) consistent with **Mitigation Measure 3.8-1e**. o If a resource is determined to be eligible for listing on the California Register and/or National Register, DWR will avoid damaging effects in accordance with California PRC Section 21084.3, if feasible. o If a TCP is determined to be eligible for listing in the National Register, then the procedures for determination of effect and, if adverse, treatment of the resource to resolve adverse effect will be conducted in accordance with the procedures required for compliance with Section 106 of the NHPA (36 CFR Parts 800.5–800.6).	SU	NI	SU-

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3.14 Utilities and Service Systems	**3.14-1:** Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded water, stormwater drainage, or electric power facilities, the construction or relocation of which could cause significant environmental effects.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.14-2: Implementation of the Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	NI	LTS	None required.	LTS	NI	LTS
	3.14-3: Implementation of the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs and could fail to comply with federal, State, and local statutes and regulations related to solid waste.	LTS	NI	LTS	None required.	LTS	NI	LTS

Source: Data compiled by Environmental Science Associates in 2025

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ACRONYMS AND OTHER ABBREVIATIONS

Abbreviation	Definition
°C	degrees Celsius
AB	Assembly Bill
APN	Assessor's Parcel Number
AU	auger unit
basin plan	water quality control plan
Basin Plan	*The Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region: the Sacramento River Basin and the San Joaquin River Basin*
Bay-Delta	San Francisco Bay/Sacramento–San Joaquin Delta
BMP	best management practice
Boards	State Water Resources Control Board and regional water quality control boards, referred to collectively
BP	years before present
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
CAP	climate action plan
CAPII	DWR Climate Action Plan Phase II: Climate Change Analysis Guidance
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CEQA Guidelines	*Guidelines for Implementation of the California Environmental Quality Act*
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHRIS	California Historical Resources Information System

Abbreviation	Definition
cm	centimeter(s)
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Construction General Permit	Statewide Permit for Stormwater Discharges Associated with Construction Activity
CRPR	California Rare Plant Rank
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
Delta	Sacramento–San Joaquin Delta
DOC	California Department of Conservation
DPM	diesel particulate matter
DPS	distinct population segment
Draft SEIR	draft supplemental environmental impact report
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EFH	Essential Fish Habitat
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
ESU	evolutionarily significant unit
FESA	federal Endangered Species Act
Final SEIR	final supplemental environmental impact report
Final SRGO Program EIR	Consolidated Final State Water Resources Control Board Restoration Projects Statewide Order Program Environmental Impact Report
FMMP	Farmland Mapping and Monitoring Program
FR	*Federal Register*
FRAQMD	Feather River Air Quality Management District
FRFH	Feather River Fish Hatchery
ft/s	feet per second
GHG	greenhouse gas
GPM	general protection measure
GPS	global positioning system

Abbreviation	Definition
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan
GWP	global warming potential
HAP	hazardous air pollutant
HCP	habitat conservation plan
HMBP	Hazardous Materials Business Plan
hp	horsepower
HPTP	Historic Properties Treatment Plan
kWh	kilowatt-hours
mm	millimeter(s)
mpg	miles per gallon
MRZ	Mineral Resource Zone
$MTCO_2e$	metric tons of carbon dioxide equivalent
MW	megawatt(s)
NAAQS	national ambient air quality standards
NAHC	California Native American Heritage Commission
National Register	National Register of Historic Places
NAVD88	North American Vertical Datum of 1988
NCIC	North Central Information Center
NEIC	Northeast Information Center
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OEHHA	Office of Environmental Health Hazard Assessment
PBO	programmatic biological opinion
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	particulate matter that is 2.5 microns or less in diameter
PM_{10}	particulate matter that is 10 microns or less in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	California Public Resources Code

Abbreviation	Definition
Proposed Project	Sunset Weir and Pumps Fish Passage Project
RM	river mile
ROG	reactive organic gases
RWQCB	regional water quality control board
SB	Senate Bill
Scoping Plan	climate change scoping plan
sDPS	Southern Distinct Population Segment
SEIR	supplemental environmental impact report
SEWD	Sutter Extension Water District
SGMA	Sustainable Groundwater Management Act
SO_2	sulfur dioxide
SRGO, or Order	Statewide Restoration General Order
State Water Board	State Water Resources Control Board
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

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CHAPTER 1
Introduction

The California Department of Water Resources (DWR), as lead agency under the California Environmental Quality Act (CEQA), proposes to implement the Sunset Weir and Pumps Fish Passage Project (Proposed Project). This draft supplemental environmental impact report (Draft SEIR) was prepared pursuant to CEQA as a supplement to the State Water Resources Control Board (State Water Board) Restoration Projects Statewide Order Program Environmental Impact Report (EIR) (State Clearinghouse No. 2019100230), which was prepared by the State Water Board to analyze the "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide."

The Proposed Project was developed to:

- Restore natural, volitional passage conditions for protected migratory fish species through the removal of the Sunset Weir.
- Replace and upgrade the Sunset Pump Station to operate at a lower surface water elevation and rehabilitate existing pump discharge pipelines.
- Install new fish screens at the Sunset Pump Station that meet current State and federal standards for protecting fish.
- Stabilize the eroded Feather River left bank downstream of the weir incorporating bioengineering techniques.

See Chapter 2, "Project Description," for a detailed description of the Proposed Project's location and restoration elements, goals, and objectives.

1.1 Eligibility for Coverage under the Statewide Restoration General Order and Program EIR

In 2022, the State Water Board issued Order WQ 2022-0048-DWQ, "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide," also known as the Statewide Restoration General Order (SRGO, or Order). The purpose of the SRGO is as follows (State Water Board 2022a: Section A.1):

> *…to expedite consultation, authorization, and permitting of restoration projects intended to help the State of California achieve its habitat restoration, species recovery, and water quality improvement goals.*

The SRGO provides programmatic authorization for large-scale habitat restoration projects that are consistent with certain eligibility criteria (outlined in Final Attachment A to the SRGO and Appendix E to the Final SRGO Program EIR, "Description and Eligibility").

The State Water Board prepared a program EIR to evaluate the impacts of project types covered by the SRGO and associated measures to protect species and the environment. Under CEQA Guidelines Section 15168, a "program EIR" is an EIR prepared for a series of actions that can be characterized as one large project and are related either: geographically as logical parts in the chain of contemplated actions; in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or as individual activities carried out under the same statutory or regulatory authority that have generally similar environmental effects that can be mitigated in similar ways (California Code of Regulations [CCR] Title 14, Section 15168[a] [14 CCR Section 15168(a)]).

The Final SRGO Program EIR was certified in September 2022. It included programmatic sideboards, design guidelines, general protection measures, species protection measures, and mitigation measures to protect species and the environment, with the intent that the State Water Board and other administrative agencies would use the SRGO and the Program EIR's analysis to streamline environmental review of qualifying restoration projects, such as the Proposed Project, the subject of this Draft SEIR.

To be eligible for the programmatic coverage described above, a project must be a "restoration project" as defined in Section V of the SRGO. The SRGO defines a "qualifying restoration project" as follows (State Water Resources Control Board 2022a: Section V):

> *[A project] that would result in a net increase in aquatic or riparian resource area functions and/or services through implementation of the eligible project types, relevant general protection measures (GPMs), and consideration of design guidelines, summarized below and described in detail in Attachment A, Order Description and Eligibility.*

In addition, as stated in Chapter 1 of the Final SRGO Program EIR, a restoration project covered under the SRGO may include multiple benefits, such as groundwater recharge, recreation, flood management, water quality improvement, and/or adaptation to climate change.

To qualify for coverage under the SRGO, projects must meet the appropriate programmatic sideboards, general protection measures, species protection measures, and mitigation measures listed in the SRGO Program EIR's resource area impact sections. Design guidelines have also been developed to help project proponents ensure that the projects are designed in a manner that is appropriate and sustainable, minimize adverse effects on aquatic resources, maximize the ecological benefits of the restoration, and are consistent with multiple permitting agency regulatory practices (e.g., California Department of Fish and Wildlife [CDFW], National Marine Fisheries Service [NMFS], U.S. Fish and Wildlife Service [USFWS]).

The Proposed Project meets the definition of a "qualifying restoration project." It is a restoration project that includes removal of the Sunset Weir; restoration of the Feather River near the weir; replacement and upgrade of the Sunset Pump Station and installation of fish screens; and stabilization of the left bank downstream of the weir incorporating bioengineering techniques. The modeled design condition representing the Proposed Project results in more physical habitat abundance and preferred habitat abundance than modeled existing conditions, and the modeled design condition consistently provides

greater abundance of higher quality habitat classes than modeled existing conditions (Environmental Science Associates 2024).

As discussed further below, the Proposed Project meets the eligibility criteria, design guidelines, and other protection and mitigation measures outlined in the SRGO (Attachment A, "Description and Eligibility") and the Final SRGO Program EIR (Appendix F, "Species Protection Measures," and Appendix J, "Mitigation Monitoring and Reporting Program"). The Proposed Project also meets the CEQA requirement to incorporate applicable mitigation measures and alternatives developed in the Final SRGO Program EIR into the Proposed Project, per CEQA Guidelines Section 15168(c)(3). Given the Proposed Project's eligibility for the SRGO, this Draft SEIR would meet the above-outlined objective of the SRGO to expedite the consultation, authorization, and permitting of restoration projects intended to help the State of California achieve its habitat restoration and species recovery goals.

1.1.1 The Proposed Project is an "Eligible Project Type"

Section A.4 in Attachment A to the SRGO describes categories of eligible restoration project types. The Proposed Project includes elements associated with three restoration project types to achieve a range of goals and objectives for habitat enhancement and restoration: SRGO project type A.4.1, "Improvements to Stream Crossings and Fish Passage"; project type A.4.2, "Removal of Small Dams, Tide Gates, Flood Gates, and Legacy Structures"; and project type A.4.3, "Bioengineered Bank Stabilization." These three restoration project types are outlined below.

Please note that to qualify for the SRGO, a proposed project does not need to meet all criteria of the listed project type and may modify design approaches that do not conform with the specific guidelines based on site-specific conditions (State Water Board 2022b: Section 2.9).

SRGO Project Type A.4.1, "Improvements to Stream Crossings and Fish Passage"

The goals and design of the Proposed Project are consistent with SRGO project type A.4.1, "Improvements to Stream Crossings and Fish Passage." Ecological benefits of the improvements to stream crossings and fish passage projects include:

- Safe passage for migratory and nonmigratory species.
- Beneficial transport of sediment and debris.
- Improved hydrology and hydraulics.

Fish passage improvements must be consistent with the NMFS and CDFW passage criteria. **Table 1-1** describes how the Proposed Project would achieve these ecological benefits. For supporting documentation of these Proposed Project benefits, see Chapter 2, "Project Description"; Section 3.7, "Biological Resources—Aquatic"; and Section 3.11, "Hydrology and Water Quality," of this Draft SEIR.

TABLE 1-1
PROPOSED PROJECT BENEFITS RELATIVE TO ECOLOGICAL BENEFITS OF THE IMPROVEMENTS TO STREAM CROSSINGS AND FISH PASSAGE PROJECTS UNDER THE SRGO

SRGO-Defined Ecological Benefit	Benefits of the Proposed Project
Provide safe passage for migratory and nonmigratory species.	The Proposed Project would provide safe passage for migratory and nonmigratory species by removing the Sunset Weir from within the Feather River and restoring the channel to match natural grade in a manner that emulates, as much as practical, the morphology and hydraulic conditions upstream and downstream of the weir, providing for unimpeded, volitional passage over a wide range of flows. The Proposed Project would also install fish screens that meet current State and federal criteria at the pump intake facility to avoid entrainment or impingement of juvenile fish as they migrate through the area.
Promote beneficial transport of sediment and debris.	The Proposed Project would promote beneficial transport of sediment and debris by removing the Sunset Weir from within the Feather River and eliminating the current impoundment effect and higher water surface elevations produced by the weir, which cause sediment deposition upstream. The Proposed Project would result in increased sediment transport at the weir site. The Proposed Project would also include management of sediment and debris accumulation in the new pump station wet well and around the fish screens and intake.
Result in improved hydrology and hydraulics.	The existing weir, due to its elevation and oblique orientation to the river flow, creates a large hydraulic drop at most flows and steers flow toward the banks. The Proposed Project would result in improved hydraulics by removing the weir, which would create an overall smoother hydraulic transition from upstream to downstream at this location. Furthermore, the substantial existing drop in water surface elevation and/or change in flow area across the weir creates a turbulent, plunging flow that has contributed to the formation of a deep scour hole in the river just downstream; the Proposed Project would reduce scour downstream and partially fill the existing scour hole in the river.

Notes: Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order
Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

SRGO Project Type A.4.2, "Removal of Small Dams, Tide Gates, Flood Gates, and Legacy Structures"

The primary benefits of the Proposed Project are consistent with SRGO project type A.4.2, "Removal of Small Dams, Tide Gates, Flood Gates, and Legacy Structures." Ecological benefits of the removal of small dams, tide gates, flood gates, and legacy structures projects include:

- Reconnecting stream corridors, floodplains, and estuaries.
- Establishing wetlands.
- Improving passage by aquatic organisms.
- Restoring more natural channel and flow conditions.
- Restoring fisheries access to historic habitat for spawning and rearing.
- Improving the long-term quality of aquatic habitat and stream geomorphology.

All projects must be designed with seasonal construction considerations to minimize potential adverse effects on water quality and/or aquatic species. **Table 1-2** describes how the Proposed Project would achieve these ecological benefits. For supporting documentation of these Proposed Project benefits, see Chapter 2, "Project Description"; Section 3.6, "Biological Resources—Aquatic"; and Section 3.11, "Hydrology and Water Quality," of this Draft SEIR.

TABLE 1-2
PROPOSED PROJECT BENEFITS RELATIVE TO ECOLOGICAL BENEFITS OF THE REMOVAL OF SMALL DAMS, TIDE GATES, FLOOD GATES, AND LEGACY STRUCTURES PROJECTS UNDER THE SRGO

SRGO-Defined Ecological Benefit	Proposed Project Benefits
Reconnect stream corridors, floodplains, and estuaries.	The Proposed Project would reconnect stream corridors by removing the Sunset Weir from within the Feather River, which currently restricts fish movement and creates a hydraulic drop downstream of the weir. The Proposed Project would restore the channel to match natural grade in a manner that emulates, as much as practical, the morphology and hydraulic conditions upstream and downstream of the weir.
Improve passage by aquatic organisms.	The Proposed Project would improve passage by aquatic organisms by removing the Sunset Weir from within the Feather River and restoring the channel to match natural grade in a manner that emulates, as much as practical, the morphology and hydraulic conditions upstream and downstream of the weir, providing for unimpeded, volitional passage at all flows. The Proposed Project would also install fish screens that meet current State and federal criteria at the pump intake facility to avoid entrainment and impingement of juvenile fish as they migrate through the area.
Restore more natural channel and flow conditions.	The existing weir, due to its elevation and oblique orientation to the river flow, creates a large hydraulic drop at most flows and steers flow toward the banks. The Proposed Project would restore more natural channel and flow conditions by removing the weir, which would create an overall smoother hydraulic transition from upstream to downstream at this location. Furthermore, the substantial existing drop in water surface elevation and/or change in flow area across the weir creates a turbulent, plunging flow that has contributed to the formation of a deep scour hole in the river just downstream; the Proposed Project would reduce scour downstream and partially fill the existing scour hole in the river.
Restore fisheries access to historic habitat for spawning and rearing and improve the long-term quality of aquatic habitat and stream geomorphology.	The Proposed Project would restore fisheries access to historical habitat for spawning and rearing and improve the long-term quality of aquatic habitat and stream geomorphology by removing the Sunset Weir from within the Feather River and restoring the channel to match natural grade in a manner that emulates, as much as practical, the morphology and hydraulic conditions upstream and downstream of the weir, providing for unimpeded, volitional passage over a wide range of flows benefiting fish rearing and spawning; this includes access to documented spawning habitat for green sturgeon from the Thermalito Afterbay Outlet pool upstream to the Fish Barrier Dam.

Notes: Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order
Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

SRGO Project Type A.4.3, "Bioengineered Bank Stabilization"

The secondary benefits of the Proposed Project are consistent with SRGO project type A.4.3, "Bioengineered Bank Stabilization." Ecological benefits of bioengineered bank stabilization projects include improving riparian and stream habitat by:

- Increasing stream shade to lower stream temperatures.
- Stimulating the production of invertebrates.
- Promoting future recruitment of large woody material and bank stability.
- Improving bank stability.
- Reducing soil erosion and sedimentation of streams and wetlands.

To improve aquatic and riparian habitats and reduce soil erosion and sedimentation of streams and wetlands, bioengineered bank stabilization integrates living woody and herbaceous materials with earthwork and recontouring of streambanks. Bank stabilization structures that use bioengineering

techniques minimize many of the impacts on aquatic resources commonly caused by traditional or conventional engineered bank structures.

Table 1-3 describes how the Proposed Project would achieve these ecological benefits. For supporting documentation of these Proposed Project benefits, see Chapter 2, "Project Description"; Section 3.6, "Biological Resources—Aquatic"; and Section 3.11, "Hydrology and Water Quality," of this Draft SEIR.

TABLE 1-3
PROPOSED PROJECT BENEFITS RELATIVE TO ECOLOGICAL BENEFITS OF THE BIOENGINEERED BANK STABILIZATION UNDER THE SRGO

SRGO-Defined Ecological Benefit	Proposed Project Benefits
Increase stream shade to lower stream temperatures.	The Proposed Project would include a vegetated rock slope that would protect the left bank of the Feather River from further erosion or failure. In accordance with the stabilization techniques described in Part VII, "Project Implementation," of the CDFW Riparian Habitat Restoration Manual, the left bank would be stabilized with native vegetation, including willow baffles, that would provide additional shade that could lower stream temperatures and improve riparian habitat.
Stimulate the production of invertebrates.	The Proposed Project would include a vegetated rock slope that would protect the left bank of the Feather River from further erosion or failure. In accordance with the stabilization techniques described in Part VII, "Project Implementation," of the CDFW Riparian Habitat Restoration Manual, the left bank would be stabilized with native vegetation that would provide habitat for invertebrates, which ultimately would improve riparian habitat.
Promote future recruitment of large woody material.	The Proposed Project would plant willow pole baffles perpendicular to the flow of the Feather River. These baffles would provide fish resting spots as well as slow water, which could recruit larger woody material and capture sediment. Project design would reflect a more natural riverine morphology and would therefore capture sediment and woody material at a rate similar to natural conditions.
Improve bank stability.	The Proposed Project would flatten the existing and eroding bank to a 3 horizontal to 1 vertical (3:1) slope and protect the bank from further failure and erosion by using vegetated rock slope protection and willow pole baffles. The section of bank above the vegetated rock slope protection would be planted with native container plants and elderberry seedlings. The regraded bank toe would be stabilized with rock extending approximately 5 feet below the existing bank toe. The Proposed Project would be designed in accordance with the CDFW Riparian Habitat Restoration Manual and would improve bank stability along the Feather River.
Reduce soil erosion and sedimentation of streams and wetlands.	The Proposed Project would reduce soil erosion and sedimentation through two main approaches: preventing further bank erosion and trapping fine sediment. The eroded bank would be flattened and restabilized using a vegetated rock slope, preventing future erosion. The Proposed Project would plant clusters of willow pole plantings perpendicular to the stabilized bank for roughness, to trap fine sediment, and to recruit vegetation along the lower bank. Through these two methods, the Proposed Project would reduce soil erosion and sedimentation of streams and wetlands.

Notes: CDFW = California Department of Fish and Wildlife; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order

Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

1.1.2 The Proposed Project Design Incorporates Guidance from Applicable Programmatic Sideboards

Section A.5.1 in Attachment A to the SRGO provides a list of programmatic sideboards. Individual restoration projects authorized through the SRGO should be designed, planned, and implemented in a manner that is consistent with the techniques and minimization measures presented in the list of guidance

documents and administrative agency manuals listed as programmatic sideboards of the Final SRGO Program EIR. The following guidance documents contain applicable general protection measures to ensure the avoidance and minimization of impacts on aquatic/riparian resources from Proposed Project construction activities (Final SRGO Program EIR Section 2.8, Appendix E). These guidance documents are relevant to the Proposed Project based on project type and have been reviewed as noted to guide planning and design of the Proposed Project:

- CDFW's *California Salmonid Stream Habitat Restoration Manual*, Fourth Edition, Volume II (Flosi et al. 2010), which consists of the following four chapters:
  - Part IX, "Fish Passage Evaluation at Stream Crossings."
  - Part X, "Upslope Assessment and Restoration Practices."
  - Part XI, "Riparian Habitat Restoration."
  - Part XII, "Fish Passage Design and Implementation."
- CDFW's Fisheries Restoration Grant Program guidance documents (California Department of Fish and Wildlife 2024).
- NMFS's *Fish Screening Criteria for Anadromous Salmonids* (National Marine Fisheries Service 1997).
- NMFS science-based tools for evaluating stream engineering, management, and restoration proposals (Skidmore et al. 2011).
- Stream Habitat Restoration Guidelines (Cramer 2012).
- Any relevant future updates, guidance, and/or agency requirements, where appropriate.

Additional actions not described by the above guidance documents or manuals may be eligible for permitting under the SRGO; these include newer, innovative approaches to restoration design that are not yet in the guidance documents or manuals but have demonstrated success. Design elements of the Proposed Project are discussed in detail in Section 2.4, "Proposed Project Elements."

1.1.3 The Proposed Project Design Incorporates Design Guidelines

Project type–specific design guidelines have been developed with assistance from multiple regulatory agencies (e.g., CDFW, NMFS, USFWS) to help project proponents during the design development of their individual projects, in a manner that is appropriate and sustainable, minimizes adverse effects on aquatic habitats, and maximizes the ecological benefits of the restoration. For example, these guidelines include designing restored streams in ways that provide fish passage and withstand probable flooding events. The project proponent may modify design approaches that do not conform with the specific guidelines, based on site-specific conditions or technological constraints or advances, or regionally accepted guidance documents. See the Final SRGO Programmatic EIR, Appendix E, "Order Description and Eligibility" (State Water Board 2022b), for a complete description of the design guidelines.

Section A.6 of Attachment A to the SRGO provides design guidelines by project type. **Table 1-4**, **Table 1-5**, and **Table 1-6** describe how the Proposed Project incorporates design guidelines for the

"Improvements to Stream Crossings and Fish Passage" and "Removal of Small Dams, Tide Gates, Flood Gates, and Legacy Structures" project types.

TABLE 1-4
SRGO DESIGN GUIDELINES FOR STREAM CROSSINGS AND FISH PASSAGE

Design Guideline	Is Guideline Applicable to Proposed Project?	Discussion
Stream Crossing, Culvert, and Bridge Projects	Not Applicable	The Proposed Project does not include stream crossings, culverts, or bridges.
Fish Screens		
The project proponent will contact the approving Water Board to submit available project information and request a pre-application consultation meeting prior to submittal of the NOI. The approving Water Board may waive the pre-application meeting requirement on a case-by-case basis.	Yes	Project design is consistent with this guideline. DWR would contact the approving Water Board to submit available project information and request a pre-application consultation meeting prior to submitting the NOI. The Proposed Project would install fish screens that meet current State and federal criteria at the pump intake facility to avoid impingement of juvenile fish as they migrate through the area.
Fishways	Not Applicable	The Proposed Project does not include construction of fishways.
Headcut Stabilization	Not Applicable	The Proposed Project does not include headcut stabilization.

Notes: DWR = California Department of Water Resources; NOI = Notice of Intent; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order

Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

TABLE 1-5
SRGO DESIGN GUIDELINES FOR REMOVAL OF SMALL DAMS, TIDE GATES, FLOOD GATES, AND LEGACY STRUCTURES

Design Guideline	Is Guideline Applicable to Proposed Project?	Discussion
Small Dam Removal		
The project proponent will contact the approving Water Board to submit available project information and request a pre-application consultation meeting prior to submittal of the NOI. The approving Water Board may waive the pre-application meeting requirement on a case-by-case basis.	Yes	Project design is consistent with this guideline. DWR would contact the approving Water Board to submit available project information and request a pre-application consultation meeting prior to submitting the NOI.
Tide Gate Removal	Not Applicable	The Proposed Project does not include removal of a tide gate.
Removal of Legacy Structures		
If the structure being removed contains material (e.g., large wood, boulders, concrete, etc.) not typically found within the stream or floodplain at that site, consider disposing of removed material at an approved landfill or disposal site.	Yes	Project design is consistent with this guideline. A total of 27,500 cubic yards of native material would be excavated; of this amount, approximately 13,000 cubic yards of excavated material from the left bank, 4,000 cubic yards of unsuitable weir material, and approximately 1,000 cubic yards of unsuitable wet well material would be hauled off site for disposal at an appropriate disposal site as identified in Section 2.26.3. Additionally, about 5,000 cubic yards of vegetation, trees, and debris generated from demolition, and clearing and grubbing from weir removal and left bank stabilization would be hauled off site for disposal at an approved facility.

Design Guideline	Is Guideline Applicable to Proposed Project?	Discussion
If the structure being removed contains material (e.g., large wood, boulders, etc.) that is typically found within the stream or floodplain at that site, the material could be reused to implement habitat improvements described under other restoration project types in the Order.	Yes	Project design is consistent with this guideline. Suitable portions of the weir material (including boulders) and rock imported for the construction of temporary access ramp and work pads would be used to partially fill the large scour hole in the river immediately downstream of the weir and, potentially, in the left bank stabilization area.
If the structure being removed is keyed into the bank, consider filling in "key" holes with native materials to restore contours of stream bank and floodplain. Fill material should be adequately compacted to prevent washing out of the soil during over-bank flooding. Material from the stream channel should not be mined to fill in "key" holes.	Yes	Project design is consistent with this guideline. The Sunset Weir removal would restore the channel to match natural grade. Upon weir removal, banks adjacent to the removed weir may be graded so the channel cross section would be similar to the geometry of the channel upstream and downstream.
When removal of buried log structures may result in significant disruption to riparian vegetation or the floodplain, consider using a chainsaw to extract the portion of log within the channel and leaving the buried sections within the streambank.	Not Applicable	The Proposed Project would not include the removal of buried log structures.
If the legacy structures (log, rock, or gabion weirs) were placed to provide grade control, evaluation of the site for potential headcutting and incision due to structure removal should be conducted. If headcutting and channel incision are likely to occur due to structure removal and are not desired to achieve proper functioning habitat conditions, additional measures should be taken to minimize these impacts, to the extent practicable.	Yes	Project design is consistent with this guideline. Although the main purpose of the Sunset Weir is to maintain hydraulic head for the adjacent pump station, it also functions as a grade control structure. Upon weir removal, existing hydraulic drop across the weir would be eliminated, reducing localized turbulence and energy dissipation immediately downstream. This, in turn, could lower the risk of scour and headcutting immediately upstream of the former weir location. The large scour hole in the river immediately downstream of the weir would be partially filled. Most materials that would be used to fill the scour hole would be from the existing weir and are expected to be at least cobble and boulder-size materials; thus, they are less likely to be mobilized and flushed downstream. Therefore, the channel bottom profile after weir removal is expected to be relatively stable and potential scouring or headcutting is unlikely. Disturbed areas at the channel banks and other areas determined to be at risk of erosion after removal of the weir would be protected with rock slope protection. Other areas disturbed by construction and above the channel waterline would be protected by the establishment of non-woody vegetation.

Notes: DWR = California Department of Water Resources; NOI = Notice of Intent; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order

Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

TABLE 1-6
SRGO DESIGN GUIDELINES FOR BIOENGINEERED BANK STABILIZATION

Design Guideline	Is Guideline Applicable to Proposed Project?	Discussion
Restore damaged streambanks to a natural slope and profile suitable for the establishment of riparian vegetation.	Yes	Project design is consistent with this guideline.
When necessary, consider the use of soil layers or lifts that are strengthened with biodegradable fabrics that are penetrable by plant roots.	Not Applicable	Project design is consistent with this guideline.
Include large wood to the extent it would naturally occur. If possible, wood should have untrimmed root wads to provide functional refugia habitat for fish. Wood that is already within the stream or suspended over the stream may be repositioned to allow for greater interaction with the stream.	Not Applicable	The Proposed Project would not include the use of large wood.
Use a diverse assemblage of vegetation species that is appropriate for the project area, including trees, shrubs, and herbaceous species. Vegetation, such as willow, sedge and rush mats, may be gathered from abandoned floodplains, stream channels, etc., if the soil is not contaminated with pathogens	Yes	Project design is consistent with this guideline. Project design would use native plants including willows and elderberry seedlings. Clusters of willow pole plantings would be installed perpendicular to the stabilized stream for roughness, to trap fine sediment, and to recruit vegetation along the lower bank. These plantings would also provide refugia habitat for fish.
Install fencing and signage, as necessary to prevent access to revegetated sites by livestock or unauthorized persons. Coordination with local public agencies, such as police and social work groups, should be considered for site protection.	Not Applicable	The left bank stabilization component of the Proposed Project is located on private property that is currently not accessible to the public.
Limit the extent and quantity of rock or boulders to the minimum necessary to prevent scour from expected moderate to high stream flows and velocities.	Yes	Project design is consistent with this guideline. The regraded bank toe would be stabilized with rock extending approximately 5 feet below the existing bank toe and would have sufficient volume to allow for "launching" to an anticipated scour depth, which would prevent extensive bank erosion or failure.

Notes: DWR = California Department of Water Resources; NOI = Notice of Intent; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SRGO = Statewide Restoration General Order

Sources: State Water Board 2022a; data compiled by Environmental Science Associates in 2025

1.1.4 The Proposed Project Incorporates Applicable General and Species Protection Measures and Mitigation Measures

General Protection Measures

Section A.5.2 in Attachment A to the SRGO provides general protection measures related to water quality and hazardous materials (staging and stockpiling of materials, erosion and sedimentation control measures, other water quality measures, and in-water work measures), vegetation/habitat disturbance, revegetation, and herbicide use. All projects permitted under the SRGO must incorporate applicable general protection measures to ensure the avoidance and minimization of impacts on aquatic/riparian resources from construction activities. All general protection measures applicable to the Proposed Project

would be implemented, as cited and discussed in relevant resource sections of this Draft SEIR (see Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures") and listed in **Table 1-7**. See the Final SRGO Program EIR, Appendix E, "Order Description and Eligibility" (State Water Board 2022b), for a complete description of each general protection measure.

TABLE 1-7
GENERAL PROTECTION MEASURES

Category	Measures
General Protection Measures	GPM-1: Receipt and Copies of All Permits and Authorizations GPM-2: Construction Work Windows GPM-3: Construction Hours GPM-4: Environmental Awareness Training GPM-5: Environmental Monitoring GPM-6: Work Area and Speed Limits GPM-7: Environmentally Sensitive Areas GPM-8: Prevent Spread of Invasive Exotic Plants GPM-9: Practices to Prevent Pathogen Contamination GPM-10: Equipment Maintenance and Materials Storage GPM-11: Material Disposal GPM-12: Fugitive Dust Reduction GPM-13: Trash Removed Daily GPM-14: Project Cleanup after Completion GPM-15: Revegetate Disturbed Areas
Water Quality and Hazardous Materials	WQHM-1: Staging Areas and Stockpiling of Materials and Equipment WQHM-2: Storm Water Pollution Prevention Plan WQHM-3: Erosion Control Plans WQHM-4: Hazardous Materials Management and Spill Response Plan WQHM-5: In-Water Concrete Use WQHM-6: Accidental Discharge of Hazardous Materials
In-Water Measures	IWW-1: Appropriate In-Water Materials IWW-2: In-Water Vehicle Selection and Work Access IWW-3: In-Water Placement of Materials, Structures, and Operation of Equipment IWW-4: In-Water Staging Areas and Use of Barges IWW-5: Cofferdam Construction IWW-6: Dewatering/Diversion IWW-7: Fish and Aquatic Species Exclusion while Installing Diversion Structures IWW-8: Removal of Diversion and Barriers to Flow IWW-9: In-Water Pile Driving Plan for Sound Exposure IWW-10: In-Water Pile Driving Methods IWW-11: Sediment Containment during In-Water Pile Driving IWW-12: Pile-Driving Monitoring IWW-13: Dredging Operations and Dredging Materials Reuse Plan
Vegetation/Habitat Disturbance and Revegetation, and Herbicide Use	VHDR-1: Avoidance of Vegetation Disturbance VHDR-2: Native and Invasive Vegetation Removal Materials and Methods VHDR-3: Revegetation Materials and Methods VHDR-4: Revegetation Erosion Control Materials and Methods VHDR-5: Revegetation Monitoring and Reporting VHDR-6: Herbicide Use VHDR-7: Herbicide Application Planning VHDR-8: Herbicide Application Reporting

Source: State Water Board 2022b

Species Protection Measures

Appendix F of the Final SRGO Program EIR contains a list of species-specific protection measures to be implemented in addition to all the applicable general protection measures when suitable habitat exists within a proposed project area or if a project is proposed within the currently occupied range of the species and/or a species is determined to be present. Alternative measures, conditions, or technological advances to accommodate individual restoration projects may be proposed by enrollees for regulatory agency approval (NMFS, USFWS, and/or CDFW). The Proposed Project would incorporate all applicable special-status species protection measures, as cited and discussed in relevant resource sections of this Draft SEIR (see Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures") and listed below in **Table 1-8**. See the Final SRGO Program EIR, Appendix F, "Species Protection Measures" (State Water Board 2022b), for a complete description of each species protection measure.

TABLE 1-8
SPECIES PROTECTION MEASURES

Category	Measures
Species Protection Measures[1]	SPM-1: Pre-construction Surveys SPM-2: Environmentally Sensitive Areas and/or Wildlife Exclusion SPM-3: Species Protection Construction Work Windows SPM-4: Species Capture, Handling and Translocation SPM-5: Sensitive Species Entrapment Prevention SPM-6: Airborne Noise Reduction
Amphibian Species Protection Measures[2]	AMP-1: Wildlife Passage Design AMP-2: Rain Event Limitations AMP-3: Pre-Construction Survey AMP-4: Disease Prevention and Decontamination AMP-5: Lighting AMP-6: Clearing and Grubbing Vegetation AMP-7: Pump Screens AMP-8: Removal of Non-native Species AMP-9: Placement of Suitable Erosion Control Material AMP-10: Encounters with Species AMP-11: Species Observations and Handling Protocol
Reptile Species Protection Measures[2]	REP-1: Pre-Construction Survey REP-2: Environmentally Sensitive Area Fencing REP-3: Clearing and Grubbing Vegetation REP-4: Prohibited Use of Rodenticides REP-5: Species Observations and Encounters REP-6: Species Handling and Relocation
Bird Species Protection Measures[2]	BIRD-1: Habitat Assessment BIRD-2: Nest Protection Work Window BIRD-3: Work Area Limits BIRD-4: Site Access Restrictions BIRD-5: Monitoring
Mammal Species Protection Measures[2]	MAM-1: Conduct Habitat Assessment MAM-2: Exclusion Areas MAM-3: Use of Handheld Tools MAM-4: Species Trapping and Relocating MAM-5: Reporting Requirements

Category	Measures
Invertebrate Species Protection Measures[2]	INVERT-1: Implement California Freshwater Shrimp Measures INVERT-2: Implement Vernal Pool Branchiopods Measures INVERT-3: Implement Valley Elderberry Longhorn Beetle Protocol INVERT-4: Implement Butterfly Protection Measures
Fish Species Protection Measures[2]	FISH-1: Habitat Disturbance Avoidance and Minimization FISH-2: Habitat Assessment and Surveys FISH-3: Fish Capture and Relocation FISH-4: Reporting
Plant Species Protection Measures[3]	PLANT-1: Habitat Assessment and Surveys PLANT-2: Seasonal Avoidance of Vernal Pool Plant Species and Other Annual Perennial Species PLANT-3: Exclusion Buffer Establishment PLANT-4: Work Restrictions in the Exclusion Buffer PLANT-5: Biological Monitoring PLANT-6: Herbicide Application, Clearing, and Ground Disturbance

Notes:

1. Species protection measures (i.e., measures that generally can apply to all or multiple guilds).
2. All species guild protection measures (i.e., subsets of measures that generally can be applied to all species within a given guild) are programmatic; project-specific measures for single or smaller groups of species shall be further developed and evaluated by project proponents based on project-specific conditions with permitting agencies based on individual project-specific conditions. The protection measures described for species guilds are generally listed in chronological order of project implementation activities for ease of implementation (e.g., design, surveys, avoidance, work windows, work restrictions, implementation monitoring, and revegetation monitoring).
3. Protection measures for plants consist primarily of avoidance measures. When complete avoidance of special-status plant species is not possible, additional protection measures have been included.

Source: State Water Board 2022b

SRGO Mitigation Measures

Restoration projects authorized under the SRGO and covered by the Final SRGO Program EIR must also comply with all applicable mitigation measures listed in the impact section for each environmental resource discussion. **Table 1-9** lists the mitigation measures by resource area. The Proposed Project would incorporate all applicable mitigation measures for each affected resource area, or alternatively, would provide comparable and equally effective alternative mitigation measures, as discussed and provided in each relevant resource section of this Draft SEIR (see Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures"). See the Final SRGO Program EIR, Appendix J, "Mitigation Monitoring and Reporting Program" (State Water Board 2022b), for a full description of each mitigation measure.

TABLE 1-9
MITIGATION MEASURES FOR ENVIRONMENTAL RESOURCES

Resource Area	Mitigation Measure
Aesthetics	Mitigation Measure AES-1: Minimize Degradation of Visual Quality Mitigation Measure AES-2: Avoid Effects of Project Lighting
Agriculture and Forestry	Mitigation Measure AG-1: Minimize and Avoid Loss of Special Designation Farmland Mitigation Measure AG-2: Minimize Impacts on Lands Protected by Agricultural Zoning or Williamson Act Contract Mitigation Measure GEO-6: Implement Measures for Waterway Construction Activities
Air Quality	Mitigation Measure AIR-1: Minimize Conflicts with Applicable Air Quality Plans Mitigation Measure AIR-2: Minimize Construction Air Pollutant Emissions Mitigation Measure AIR-3: Minimize GHG Emissions

Resource Area	Mitigation Measure
Biological–Terrestrial	Mitigation Measure TERR-1: Coordinate with CDFW, USFWS, and Permittees Regarding HCPs, NCCPs, and Other Conservation Plans
Cultural	Mitigation Measure CUL-1: Conduct Inventory and Significance Evaluation of Architectural Resources Mitigation Measure CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources Mitigation Measure CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation Mitigation Measure CUL-4: Implement Measures to Protect Human Remains during Project Construction or Operation
Geology and Soils	Mitigation Measure GEO-1: Include Geotechnical Design Recommendations Mitigation Measure GEO-2: Comply with the Alquist-Priolo Act Mitigation Measure GEO-3: Conduct Individual Restoration Project Geotechnical Investigation and Report Mitigation Measure GEO-4: Adhere to International Building Code Mitigation Measure GEO-5: Conduct Expansive Clay Investigation Mitigation Measure GEO-6: Implement Measures for Waterway Construction Activities Mitigation Measure GEO-7: Implement Measures for Levee Construction and Other Fill Embankment Designs Mitigation Measure GEO-8: Assess the Presence of Highly Organic Soils Mitigation Measure GEO-9: Conduct a General Project-Level Analysis Mitigation Measure GEO-10: Conduct Worker Training
Hazards and Hazardous Materials	Mitigation Measure HAZ-1: Prepare and Implement a Health and Safety Plan and Provide Qualified Oversight of Fill Removal Related to Earthmoving Activities Mitigation Measure HAZ-2: Notify Appropriate Federal, State, and Local Agencies If Contaminated Soils Are Identified, and Complete Recommended Remediation Activities Mitigation Measure HAZ-3: Notify Appropriate Federal, State, and Local Agencies If Accidental Discharges of Hazardous Materials Occur Mitigation Measure HAZ-4: Establish Airport Operation Area Buffer Zones Mitigation Measure HAZ-5: Coordinate with Applicable Federal, State, and Local Agencies and Districts Mitigation Measure HAZ-6: Prepare and Implement a Vector Management Plan
Mineral Resources	Mitigation Measure MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource Mitigation Measure MIN-2: Minimize Potential Impacts from the Loss of a Locally-Important Mineral Resource Recovery Site
Noise	Mitigation Measure NOISE-1: Minimize Noise Conflicts Mitigation Measure NOISE-2: Minimize Operations and Maintenance Noise Conflicts Mitigation Measure NOISE-3: Prepare Pre-construction Safety Plans
Recreation	Mitigation Measure REC-1: Minimize Impairment, Degradation, or Elimination of Recreational Resources Mitigation Measure REC-2: Minimize Impacts on Existing Recreational Resources
Transportation	Mitigation Measure TRA-1: Prepare Construction Traffic Management Plan Mitigation Measure TRA-2: Prepare Waterway Traffic Control Plan Mitigation Measure TRA-3: Develop Channel Closure Plan for Affected Facilities Mitigation Measure TRA-4: Reduce Project Effects on Boat Passage and Transit Facilities Mitigation Measure TRA-5: Minimize Effects on Trails and Bicycle and Pedestrian Circulation and Identify Alternatives Mitigation Measure TRA-6: Reduce Emissions Mitigation Measure TRA-7: Conduct Routine Inspections Mitigation Measure TRA-8: Repair Damaged Roadways and Trails Following Construction

Resource Area	Mitigation Measure
Tribal Cultural	Mitigation Measure TCR-1: Conduct Inventory and Significance Evaluation of Tribal Cultural Resources with Tribes that are Culturally and Geographically Affiliated with the Project Vicinity Mitigation Measure TCR-2: Implement Measures to Protect Tribal Cultural Resources during Project Construction or Operation
Wildfire	Mitigation Measure FIRE-1: Develop and Implement a Fire Prevention Plan

Notes: CDFW = California Department of Fish and Wildlife; GHG = greenhouse gas; HCP = habitat conservation plan; NCCP = natural community conservation plan; USFWS = U.S. Fish and Wildlife Service

Source: State Water Board 2022b.

1.1.5 The Proposed Project Does Not Include Activities Prohibited under the SRGO

Section A.5.5 in Attachment A to the SRGO outlines certain activities that are not within the scope of the SRGO and would require separate permitting approvals with the State Water Board and/or regional water quality control boards (RWQCBs). A brief discussion of whether the Proposed Project includes such prohibited activities is provided below each listed action.

- Use of gabion baskets, boxes, or cages.
  - The Proposed Project does not include the use of gabion baskets, boxes, or cages.
- Use of cylindrical riprap (e.g., Aqualogs).
  - The Proposed Project does not include the use of cylindrical riprap.
- Use of undersized riprap (e.g., would not remain in place during a 100-year flow event or other standard accepted by the approving RWQCB).
  - The Proposed Project includes some placement of riprap around the Sunset Pump Station intake structure to prevent scour and bank erosion, as well as for the left bank stabilization. Bioengineering techniques would be used where feasible and no use of undersized riprap would be included.
- Construction of permanent dams (does not apply to beaver dam analogs) or concrete-lined channels of any sort.
  - The Proposed Project does not include the construction of any dams or concrete-lined channels.
- Use of chemically treated timbers for grade or channel stabilization structures, bulkheads, or other structures within or immediately adjacent to waters of the State, or where runoff from the treated material could enter waters of the State.
  - The Proposed Project does not include the use of chemically treated timbers.
- Activities that result in long-term, substantial disruption of the movement of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the project area.
  - Proposed Project activities would result in a beneficial increase in volitional fish passage upstream by removing the Sunset Weir, eliminating the current weir impoundment, and installing

fish screens that meet current State and federal criteria at the pump intake facility to avoid impingement of juvenile fish as they migrate through the area.

- Elimination of a riffle, pool, or riffle/pool complex that is not replaced/enhanced elsewhere by the project. (Note: In some instances, a restoration project may affect or modify riffle/pool complex depending on project-specific conditions and design objectives. For example, a culvert removal may affect an existing pool. These types of projects would be allowed under the Order.)
  - The Proposed Project does not include impacts on or elimination of a riffle or riffle/pool complex. Weir removal would allow the Feather River within the weir impoundment area to "rehabilitate" and take on a more natural riverine morphology with variable and distinct habitat types (e.g., deep pools and shallow riffles). The existing scour hole downstream of the weir would be only partially filled to allow the riverbed to adjust naturally; it is expected to fill naturally with river sediments (e.g., gravel) once the weir is removed, thereby creating a more natural morphology and a cap over any placed weir material.
- Water diversions, except diversions associated with water conservation projects as described in Section A.4.5, "Water Conservation"; diversions associated with delivery or conveyance to and within managed wetland habitats as described in Category A.4.9, "Establishment, Restoration, and Enhancement of Tidal, Subtidal, and Freshwater Wetlands"; and those necessary to temporarily dewater the construction site of a restoration project.
  - The Proposed Project does not include new water diversions. The Proposed Project does include the replacement and upgrade of the existing Sunset Pumps such that they could operate under the lowered riverine hydraulic conditions to meet existing water supply obligations. This would involve replacing the pump and motor units and replacing or slip-lining associated discharge piping, constructing a new wet well and pump support structure, and installing contemporary fish screens that meet current criteria. Therefore, the Proposed Project is consistent with this condition, and this would be an allowed activity under the SRGO.
  - Construction of the Proposed Project includes the use of cofferdams and temporary dewatering of the site. The water pumped during the dewatering operation would be discharged into the existing SEWD Main Canal when the canal is operational. Clean water from dewatering wells or sump pumps is proposed to be discharged back to the river. The SRGO expressly states that water diversions are considered a prohibited activity unless necessary to temporarily dewater the construction site of a restoration project. The use of a cofferdam and associated dewatering activities is necessary for construction of the Proposed Project; therefore, the Proposed Project is consistent with this condition, and this would be an allowed activity under the SRGO.
- The installation of flashboard dams, head gates, or other mechanical structures is generally prohibited; however, there are exceptions for certain projects that require them to meet ecological goals (e.g., storage projects to reduce low-flow stream diversions [Section A.4.5], off-channel/side-channel managed floodplain, and managed wetland habitat), and for the required replacement of legacy structures under the "Removal of Small Dams, Tide Gates, Flood Gates, and Legacy Structures" project category.
  - The Proposed Project does not include the installation of flashboard dams or head gates. The Proposed Project does include the replacement of existing mechanical structures (the Sunset Pump Station) to allow them to continue to function with a lower water surface elevation

following removal of the Sunset Weir and the elimination of the current weir impoundment. Therefore, the Proposed Project is consistent with this condition, and this would be an allowed activity under the SRGO.

- Creation or potential creation of a barrier to anadromous fish passage as determined by the NMFS fish passage guidelines or equivalent CDFW guidelines, as applicable (including any associated maintenance activities, or lack thereof).
  - Proposed Project activities would result in a beneficial increase in volitional fish passage upstream by removing the Sunset Weir, eliminating the current weir impoundment, and installing fish screens that meet current State and federal criteria at the pump intake facility to avoid impingement of juvenile fish as they migrate through the area.
- Use of excess riprap bank protection, other than the minimum amount needed to achieve project goals, as determined by the State Water Board or appropriate RWQCB, as applicable.
  - The Proposed Project includes some placement of riprap around the Sunset Pump Station intake structure to prevent scour and bank erosion, as well as for the left bank stabilization. Bioengineering techniques would be used where feasible and no use of undersized riprap would be included. The Proposed Project would use the minimum amount needed to achieve project goals.
- Installation of infiltration galleries (subsurface structure, typically including perforated conduits in gravel, to expedite transfer of water to or from a soil).
  - The Proposed Project does not include the installation of infiltration galleries.
- Managed surrogate floodplain and managed returned flows that do not allow for volitional movement (ingress and egress) of fish to the main channel (up and/or downstream).
  - The Proposed Project does not include managed floodplains and would not implement managed return flows. The Proposed Project design would result in a beneficial increase in volitional fish passage upstream by removing the Sunset Weir and eliminating the current weir impoundment.

1.2 Type of Environmental Impact Report

The lead agency for a project under CEQA may prepare a supplement to a previously certified EIR if certain conditions are met. Specifically, if the requirements to prepare a subsequent EIR are met, then a supplemental EIR may be prepared if "only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation" (*Guidelines for Implementation of the California Environmental Quality Act* [CEQA Guidelines] Section 15163).

In accordance with these requirements, this Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This Draft SEIR provides additional information needed to make the Final SRGO Program EIR, as supplemented, adequate for the Proposed Project. Consistent with CEQA Guidelines Section 15163(b), this Draft SEIR contains only the information needed to analyze the Proposed Project, including changed circumstances and new information requiring additional environmental review. Where information and analysis provided in the Final SRGO Program EIR is applicable to the Proposed Project, it is summarized and/or incorporated by reference.

The Proposed Project is within the scope of and would not substantively change the SRGO Program EIR, with the exception of additional Proposed Project–specific details, such as those discussed below:

- Addresses the potential new or potentially more severe environmental impacts related to developments in project design (e.g., details related to the location of staging and borrow sites, mitigation sites, and haul routes) and project-level, resource-area-specific surveys, if applicable. (14 CCR Section 15168[d][3].)
- Recommends mitigation measures to avoid or minimize any new or substantially more severe environmental impacts, if applicable, to reduce them to less-than-significant levels.
- Updates the impact analyses and mitigation measures where environmental or regulatory conditions have changed since certification of the 2022 SRGO Program EIR. (14 CCR Section 15168[d][2].)

1.2.1 Intended Uses of This Supplemental Environmental Impact Report

DWR is the lead agency for complying with CEQA and the CEQA Guidelines. DWR has prepared this Draft SEIR to provide the public and responsible and trustee agencies with information about the potential environmental effects of the Proposed Project. Table 2-5, "Anticipated Regulatory Requirements," in Section 2.5, "Anticipated Regulatory Requirements," presents a list of all anticipated permits and approvals required for the Proposed Project. Federal, State, and regional agencies listed in Table 2-5 that may potentially use this Draft SEIR include:

- U.S. Army Corps of Engineers
- USFWS
- NMFS
- CDFW
- State Water Board
- Central Valley RWQCB
- State Historic Preservation Office
- State Lands Commission
- Central Valley Flood Protection Board
- Levee District No. 9
- Sutter Extension Water District
- Sutter County
- Yuba County

As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of a proposed project and identifies mitigation measures and alternatives to the proposed project that would reduce or avoid adverse environmental impacts. CEQA requires State and local government agencies to consider the environmental consequences of projects over which they have discretionary authority. As lead agency, DWR will consider the Final SRGO Program

EIR, as revised by this SEIR, when deciding whether to approve the Proposed Project in accordance with CEQA Guidelines Section 15163.

1.2.2 Incorporation by Reference

This Draft SEIR tiers from and incorporates by reference the following program documents, pursuant to CEQA Guidelines Sections 15150 and 15152:

- "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide" (Statewide Restoration General Order, or SRGO) (State Water Board 2022a). Available online at:

  https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo2022-0048-dwq.pdf.

- Consolidated Final State Water Resources Control Board Restoration Projects Statewide Order Program Environmental Impact Report (Final SRGO Program EIR) (State Clearinghouse No. 2019100230) (State Water Board 2022b). Available online at:

  https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders/2022/srgo-final-peir-combined.pdf (main body).

  https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders/2022/srgo-final-peir-appendices.pdf (appendices only).

1.3 Environmental Review and Approval Process

Preparation of an SEIR involves multiple steps, during which the public is provided the opportunity to review and comment on the content of the SEIR, the scope of the analyses, results and conclusions presented, and the overall adequacy of the document to meet the substantive requirements of CEQA and provide full disclosure of the potential environmental consequences of implementing the proposed project. The following discussion describes the major steps in the environmental review process that are applicable to this Draft SEIR.

1.3.1 Notice of Preparation/Public Review Process

DWR prepared and published a Notice of Preparation (NOP) of an SEIR on August 1, 2024 (State Clearinghouse No. 2024080016). The NOP was circulated to the public and to federal, State, and local agencies and other interested parties to solicit comments on the Proposed Project. The public comment period for the NOP closed on August 30, 2024. In addition to the public and agency comment period, a public scoping meeting was held in person with a virtual option on August 15, 2024, at the Yuba City Council Chambers.

No comments were received at the scoping meeting. Concerns raised in response to the NOP were considered during preparation of the Draft SEIR. The scoping comments are included in **Appendix A** of this document.

1.3.2 Draft Supplemental EIR

This Draft SEIR is available to federal, State, and local agencies and interested organizations and individuals who may want to review and comment on the analysis in this document. Publication of the Draft SEIR marks the beginning of a 45-day public review period. The 45-day public review period for the Proposed Project extends from Thursday, January 8, 2026, through Monday, February 23, 2026, ending at 5 p.m. During the public comment period, written comments should be delivered to:

California Department of Water Resources
Attn: Kevin Marr, Environmental Scientist
P.O. Box 942836
Sacramento, CA 94236-0001

Email: Kevin.Marr@water.ca.gov

Please use "Comments on Sunset Weir and Pumps Fish Passage Draft SEIR" in the subject line. Also, if submitting comments on behalf of an agency, Tribal group, or organization, please include the name of a contact person and the name of the group from which the comments are coming. All comments received, including names and addresses, will become part of the official administrative record and will be available to the public.

The Draft SEIR is available for public review at Sutter Extension Water District, 4525 Franklin Road, Yuba City, CA 95993. An electronic copy of the document is available on DWR's website via the following link:

https://water.ca.gov/News/Public-Notices

DWR will also hold a public meeting on Thursday, February 5, 2026, at 5 p.m. at the Yuba City Council Chambers, 1201 Civic Center Boulevard, Yuba City, CA 95993, to receive comments on the adequacy of the analysis included in the Draft SEIR. The meeting can also be attended virtually; to join virtually, please register at the following link:

Registration link: https://bit.ly/SunsetWeirCEQAMtg

Webinar ID: 813 6444 5062

Dial in number: (888) 788 0099

1.3.3 Final Supplemental EIR

After this Draft SEIR has been circulated and the public comments and responses to comments have been incorporated, DWR will publish a Final SEIR. DWR will review the Proposed Project and its anticipated or potential environmental impacts, as identified in the SEIR as a supplement to the Final SRGO Program EIR, and will decide whether or not to certify the Final SEIR and whether or not to approve the Proposed Project.

CEQA requires that the lead agency neither approve nor implement a project unless the project's significant environmental effects have been "eliminated or substantially lessened," unless specific findings are made (CEQA Guidelines Section 15092). If the lead agency approves the project despite

residual significant adverse impacts that cannot be mitigated to less than-significant levels, the agency must state the reasons for its action in writing. This "Statement of Overriding Considerations" must be included in the record of project approval.

1.3.4 Mitigation Monitoring and Reporting Program

CEQA Section 21081.6(a) requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." All mitigation measures identified in the Final SEIR for the Proposed Project, including the applicable mitigation measures and general protection measures from the Final SRGO Program EIR, will be included in the mitigation monitoring and reporting program, which will identify all compliance measures and responsible parties.

1.4 Contents, Organization, and Scope of This Supplemental Environmental Impact Report

1.4.1 Level of Review

As discussed in greater detail in Chapter 2, "Project Description," of this Draft SEIR, the construction and operational aspects of the Proposed Project are largely the same as those described for restoration projects analyzed under the Final SRGO Program EIR. As anticipated by the SRGO and CEQA Guidelines Section 15168, additional project-specific details have since been developed related to the location of staging, spoils, and construction sites and associated haul routes to the Proposed Project area. This Draft SEIR supplements the previously certified Final SRGO Program EIR; it therefore contains only the information needed to analyze the Proposed Project, including changed circumstances, proposed modifications, and new information requiring additional environmental review.

1.4.2 Summary of Issues Not Addressed Further

According to CEQA Guidelines Section 15163, this Draft SEIR needs to contain only the information needed to analyze the Proposed Project, including changed circumstances and new information requiring additional environmental review (14 CCR Section 15163[b]). Where existing information and analysis in the Final SRGO Program EIR are sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is warranted. Section 3.3, "Environmental Issues Not Requiring Further Analysis," summarizes environmental issues for which potential impacts of the Proposed Project are adequately addressed in the certified Final SRGO Program EIR and no further analysis is required.

The Proposed Project would not result in new or more severe potentially significant impacts, and the Final SRGO Program EIR adequately addresses potential impacts for many of the resource areas: Aesthetics, Forestry Resources, Geology and Soils, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Transportation, and Wildfire.

1.4.3 List of Issues Considered for Additional Impact Analysis

In light of the environmental issues not addressed further, the following CEQA resource areas are considered in greater detail in a revised impact analysis in this Draft SEIR:

- Agriculture
- Air Quality and Greenhouse Gas Emissions
- Biological Resources–Terrestrial
- Biological Resources–Aquatic
- Cultural Resources
- Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Recreation
- Tribal Cultural Resources
- Utilities and Service Systems

For a discussion of how potential impacts from the Proposed Project are addressed in the Final SRGO Program EIR, see Chapter 3. This SEIR also includes a cumulative impacts assessment, alternatives analysis, and an analysis of other CEQA issues.

1.5 Supplemental Environmental Impact Report Organization

This Draft SEIR is organized as follows:

- **Executive Summary.** This chapter presents a summary of the Sunset Weir and Pumps Fish Passage Project description, a description of issues to be resolved, the significant environmental impacts that would result from implementation of the Proposed Project, and mitigation measures proposed to reduce or eliminate those impacts.
- **Chapter 1, "Introduction."** Chapter 1 includes background information on the Sunset Weir and Pumps Fish Passage Project and describes the intended uses of this SEIR, the environmental review and approval process, and document organization.
- **Chapter 2, "Project Description."** Chapter 2 presents an overview of the Sunset Weir and Pumps Fish Passage Project, outlines its objectives, and summarizes the components of the Proposed Project and how they relate to the potential restoration projects analyzed in the 2022 SRGO Program EIR.
- **Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures."** This chapter summarizes the resource areas for which potential impacts of the Proposed Project are adequately addressed in the certified 2022 SRGO Program EIR and no further analysis is required. This chapter also provides information about the resource area topics requiring additional CEQA analysis beyond the analysis in the 2022 SRGO Program EIR and addresses other CEQA issues, including growth-inducing impacts, significant unavoidable impacts on the environment, and significant irreversible environmental changes.
- **Chapter 4, "Cumulative Impacts."** This chapter presents a project-specific geographic scope relevant to a cumulative analysis of environmental resources potentially affected by the Proposed Project, a list of cumulative projects, and a discussion of potential cumulative effects, as well as the Proposed Project's potentially considerable contribution to cumulative effects.
- **Chapter 5, "Alternatives."** This chapter evaluates a range of alternatives to the Proposed Project, including the No Project Alternative, which is required by CEQA.

- **Chapter 6, "List of Preparers and Persons Consulted."** Chapter 6 identifies the Draft SEIR authors and consultants and the agencies or individuals consulted during preparation of this Draft SEIR.
- **Chapter 7, "References."** This chapter lists all references cited in this Draft SEIR.
- **Appendices.** The appendices include materials that support the findings and conclusions presented in the text of this Draft SEIR.

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CHAPTER 2
Project Description

2.1 Introduction

The California Department of Water Resources (DWR), in partnership with Sutter Extension Water District (SEWD), proposes the Sunset Weir and Pumps Fish Passage Project (Proposed Project) on the Feather River, which consists of the following features:

- Removal of the Sunset Weir and restoration of natural, volitional passage conditions for protected migratory fish species.
- Replacement and upgrade of the Sunset Pump Station to operate at a lower surface water elevation and rehabilitation of existing pump discharge pipelines.
- Installation of new fish screens that meet current State and federal standards for protecting fish.
- Eroded Feather River left bank stabilization downstream of the weir incorporating bioengineering techniques.

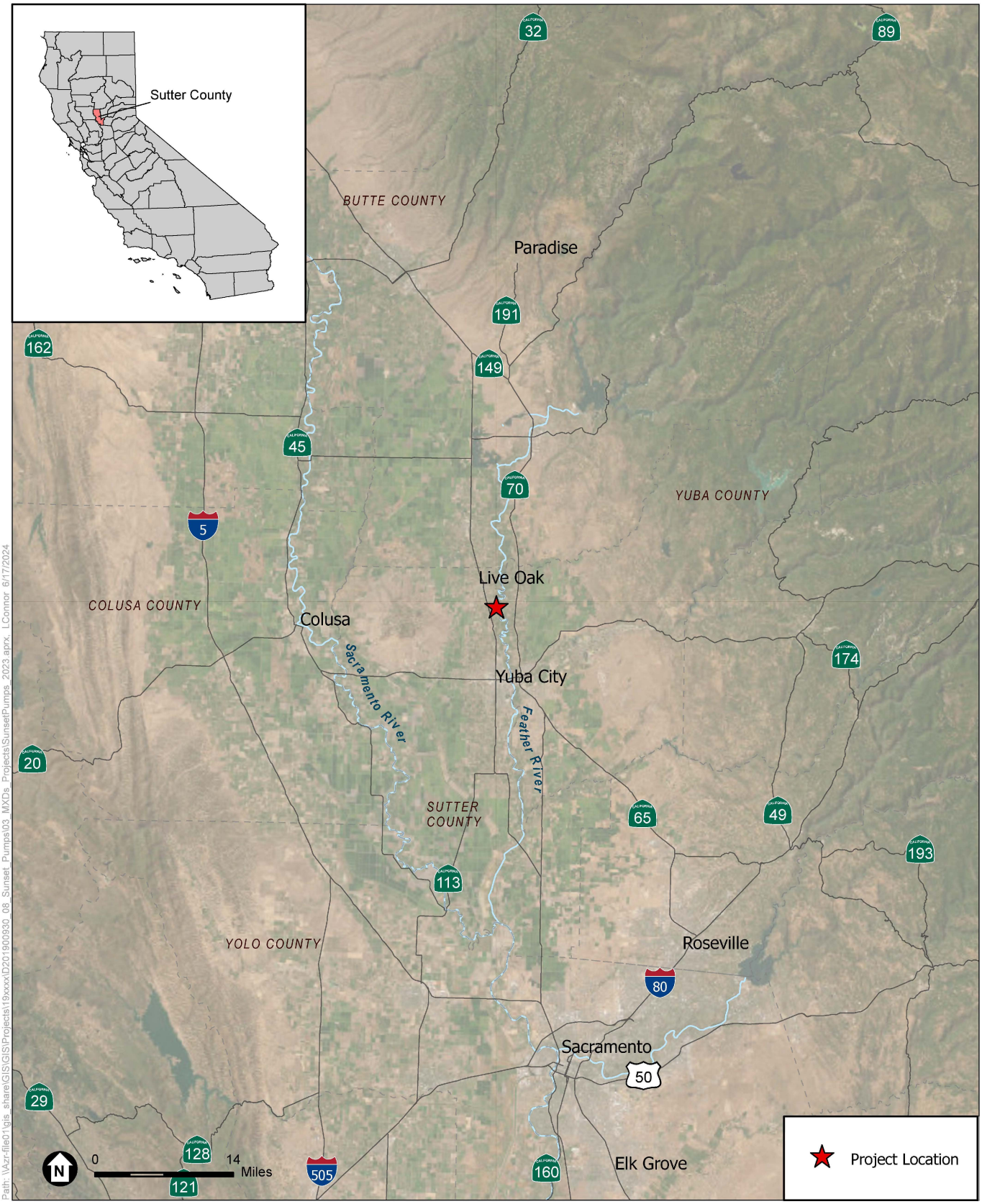
The draft Feasibility-Level Engineering Basis of Design Report for the Sunset Weir and Pumps Fish Passage Project (Environmental Science Associates 2024) and the draft Pump Station Basis of Design Report (Stantec Consulting Services 2025) were referenced in the preparation of this chapter.

2.1.1 Related Plans and Programs

Table 2-1 outlines the Proposed Project's relationship to fish management priorities from related regional plans and programs.

2.2 Proposed Project Location

The Proposed Project is located on and in the vicinity of the Feather River approximately 2 miles southeast of Live Oak in Sutter and Yuba counties, California (see **Figures 2-1** and **2-2**). As shown in **Figure 2-3**, the western boundaries of the main site for the Sunset Weir removal, pump station replacement, and left bank repair activities associated with the Proposed Project are defined by portions of the west levee of the Feather River, the western bank of SEWD's Main Canal, and the right (west) bank of the Feather River. The site's eastern boundaries are defined by the left (east) bank of the Feather River and an area extending up to 100 feet landward, depending on location. The northern and southern boundaries are defined by the Feather River and adjacent SEWD property and agricultural land.

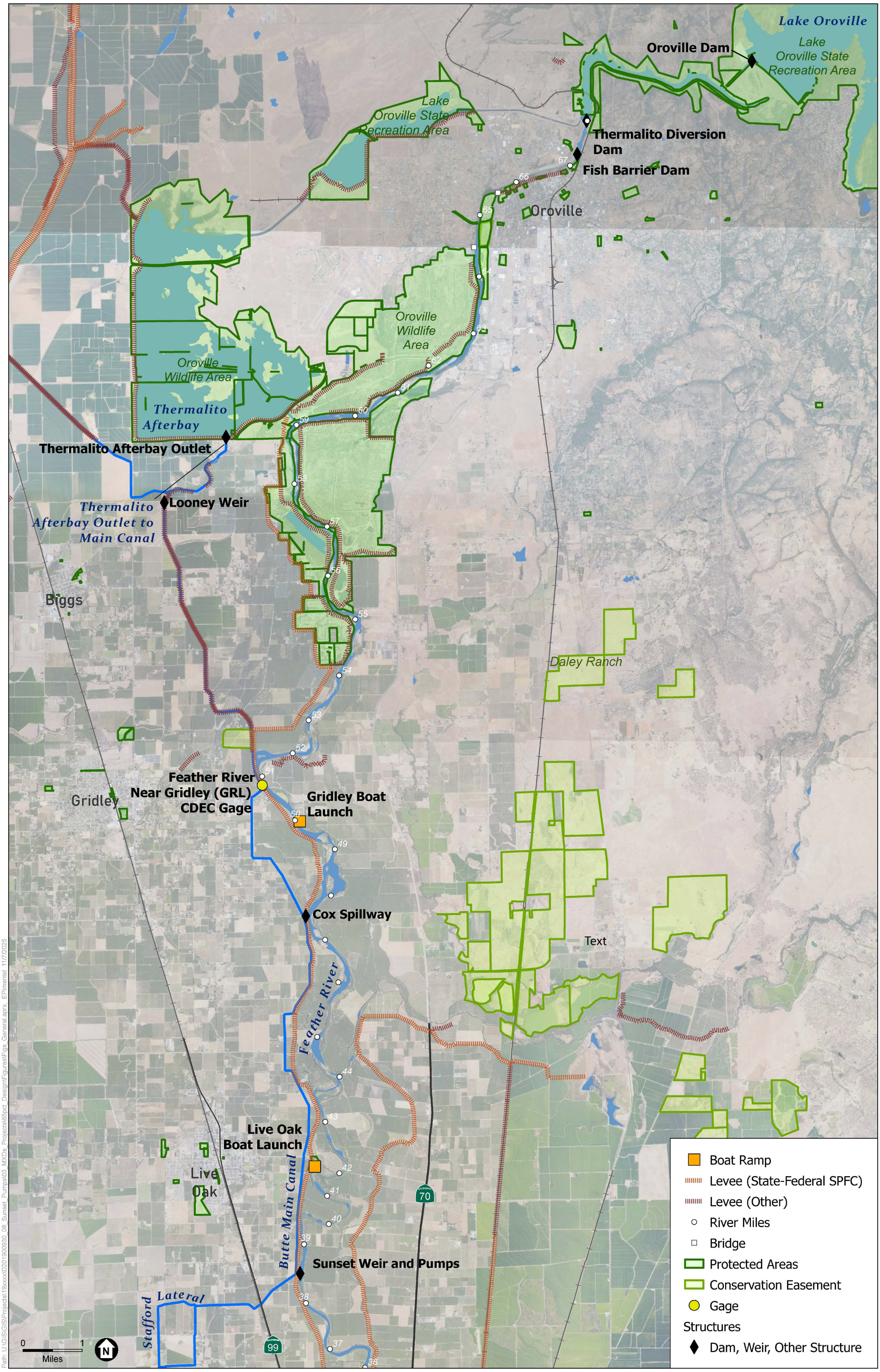


SOURCE: NAIP, 2022; ESA, 2023;

Sunset Weir and Pumps Fish Passage Project

Figure 2-1
Regional Location

ESA



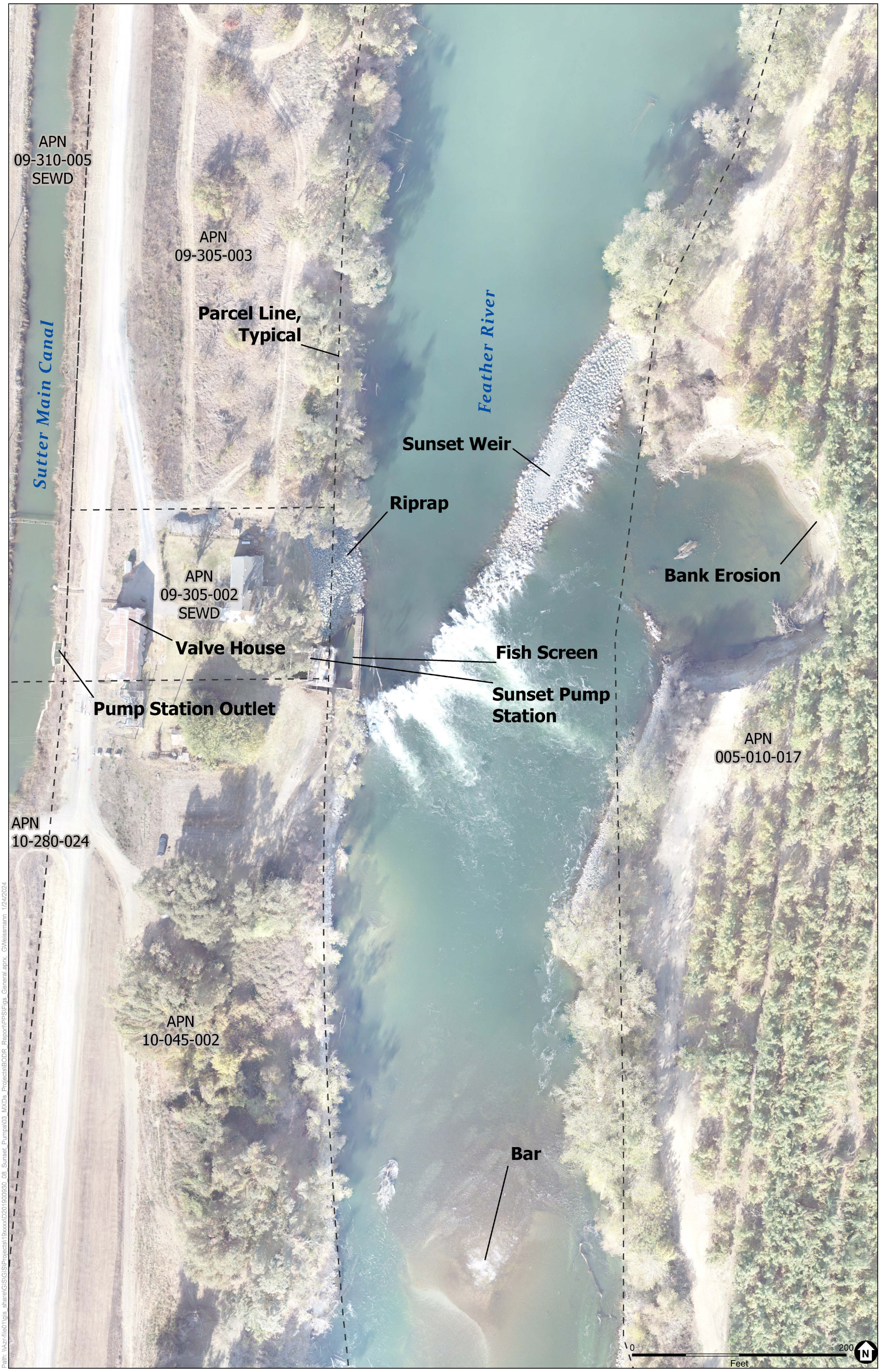
Path: U:\GIS\GIS\Projects\19xxxx\D201900930_08_Sunset_Pumps\03_MXDs_Projects\65pct_Design\Figures\Figs_General.aprx EPimentel 11/7/2025

SOURCES: Basemap (NAIP 2022), California Protected Areas (GreenInfo 2025), Conservation Easements (GreenInfo 2025), Approximate Sunset Weir Impoundment Area (USFWS 2016), Levees (DWR 2012), River Miles (USGS 2013), Streams (US Census Bureau 2021), Structures (CDFW 2021), Water Bodies (USGS 2021; US Census Bureau 2021), Gages (DWR 2022)

Sunset Weir and Pumps Fish Passage Project

Figure 2-2
Vicinity Map

ESA



SOURCE: Orthoimagery (DWR 2019), Parcels (Sutter County 2017; Yuba County 2014)

Sunset Weir and Pumps Fish Passage Project

Figure 2-3
Main Project Site – Existing Conditions and Facilities Overview

ESA

TABLE 2-1
REGIONAL PLANS AND PROGRAMS

Description	Relationship to the Proposed Project
NMFS Recovery Plans	
NMFS *Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead*.	The Proposed Project is listed in Recovery Action FER-2.13, "Modify Sunset Pumps to provide unimpeded upstream passage of adult steelhead and Chinook salmon (and sturgeon) and to minimize predation of juveniles moving downstream" (National Marine Fisheries Service 2014).
NMFS *Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon (Acipenser medirostris)*.	The Proposed Project is listed in Recovery Action 1a, "Provide upstream passage in the Feather River at the boulder weir located at Sunset Pumps" (National Marine Fisheries Service 2018).
California Salmon Strategy for a Hotter, Drier Future: Restoring Aquatic Ecosystems in the Age of Climate Change	
Governor Gavin Newsom's "California Salmon Strategy" outlines actions state agencies are already taking to stabilize and recover salmon populations and additional or intensified actions needed in coming years. These actions are organized into six priorities, including: *Remove Barriers and Modernize Infrastructure for Salmon Migration*.	The Proposed Project is identified as a key action: "…start construction to modernize Sunset Pumps on the Feather River and remove its associated rock weir thereby reducing entrainment risk and eliminating a barrier that hinders migration of adult and young salmon. (CDFW, DWR)" (State of California 2024).

Notes: CDFW = California Department of Fish and Wildlife; DWR = California Department of Water Resources; NMFS = National Marine Fisheries Service; Proposed Project = Sunset Weir and Pumps Fish Passage Project

Source: Data compiled by Environmental Science Associates in 2025

Figure 2-4 shows the project components within the main site for the Proposed Project. **Figure 2-5** shows four alternative staging areas east of the Feather River. The main site for the Proposed Project, the four alternative staging areas, and SEWD's maintenance yard (which may be used for spoils storage) are referred to collectively in this document as the "Proposed Project site."

2.2.1 Sunset Weir, Pump Station, and Left Bank

The Sunset Weir is within the area shown by the U.S. Geological Survey Gridley 7.5-minute quadrangle map and includes Assessor's Parcel Numbers (APNs) 09-350-002, 09-305-003, and 10-045-002 on the right bank and APN 005-010-017 on the left bank. The right (west) levee of the Feather River is part of the Sacramento River Flood Control Project and is operated and maintained by Levee District 9.

The Sunset Weir spans the river from the Sunset Pump Station on the right (west) bank and ties into the left (east) bank of the Feather River. The Sunset Pump Station and appurtenances (such as pipes, transformers, and the control house) discharge pumped water into SEWD's Main Canal west of the pump station (Figure 2-3). The 10-foot-tall weir consists of unconsolidated boulders; it was originally constructed in the 1920s and was modernized in 1961. More recently, the east (left) side of the weir was repaired after it sustained damage from high flows in fall 2019. The weir crest is more than 400 feet long and is oriented obliquely, approximately 60 degrees relative to the river's centerline with the upstream end on the left bank. The weir is operated and maintained by SEWD to maintain hydraulic head for SEWD's Sunset Pump Station. SEWD lands are not open to public access or recreation.

Currently, SEWD operates the Sunset Pump Station, generally from April through September, as a buffer to offset periodic flow delivery inconsistencies in the Main Canal and ensure that SEWD is able to meet its obligations to customers (Sutter Extension Water District 2018). The Sunset Pump Station has three

pumps: the North Pump, the Middle Pump, and the South Pump (**Figure 2-6**). SEWD primarily relies on the North and South pumps, which require at least 4 feet of submergence for optimal performance. The Middle Pump is larger (500 horsepower) and requires at least 8 feet of submergence for optimal performance.[1] **Table 2-2** summarizes relevant information for each pump (Minard 2016). The Sunset Pump Station also features a dated fish screen (constructed by CDFW) that does not meet contemporary National Marine Fisheries Service (NMFS) design criteria (National Marine Fisheries Service 2022).

TABLE 2-2
PUMP PERFORMANCE SUMMARY

	North Pump	Middle Pump	South Pump
Capacity (cfs)	85	115	43
Motor (hp)	350	500	200
Bowl Elevation (ft, NAVD88)	48.7	48.9	49.2
Minimum Submergence for Optimal Performance (ft)	4	8	4

Notes: cfs = cubic feet per second; ft = feet; hp = horsepower; NAVD88 = North American Vertical Datum of 1988
Source: Minard 2016.

2.2.2 Staging Areas, Spoils Storage, and Additional Access Routes

Figures 2-4 and 2-5 show the staging areas proposed for the Proposed Project. On the right bank of the Feather River, staging areas would be located north and south of the existing pump station. Additional staging areas would be located on the left bank side (east of the river) as depicted in these figures.

The spoils would consist of native soil from excavating the left bank, excavated weir material, and unusable soil generated from the wet well excavation. Unusable material or soil (or that otherwise not needed for reuse) may include, but is not necessarily limited to, fine sediments and potentially non-riprap material (e.g., broken concrete in the case of the weir). Additional material comprised of vegetation, debris, and wood material from clearing and grubbing would need to be exported off site for disposal. Spoils would be taken either to the Ostrom Landfill in Wheatland, to an existing DWR spoils site[2] located west of Reclamation Road and north of the Tisdale Bypass, or to SEWD's maintenance yard located at 4525 Franklin Road just west of Yuba City. It is anticipated that the spoils stockpiles would be up to approximately 10 feet high.

Workers would access the eastern portion of the Proposed Project site and the off-site staging areas via State Route 70 and from there to existing unnamed dirt- or gravel-surfaced agricultural roads; workers would access the western portion of the Proposed Project site via State Route 99 to the west levee of the Feather River.

[1] "Submergence" refers to the depth of water above the bottom, or bell, elevation of the pump.

[2] This DWR spoils site was evaluated in the Tisdale Weir Rehabilitation and Fish Passage Project Final EIR, August 2021, State Clearinghouse #2019049093, which is available online at https://water.ca.gov/Programs/Flood-Management/Flood-Projects/Tisdale-Weir.

KEYED NOTES

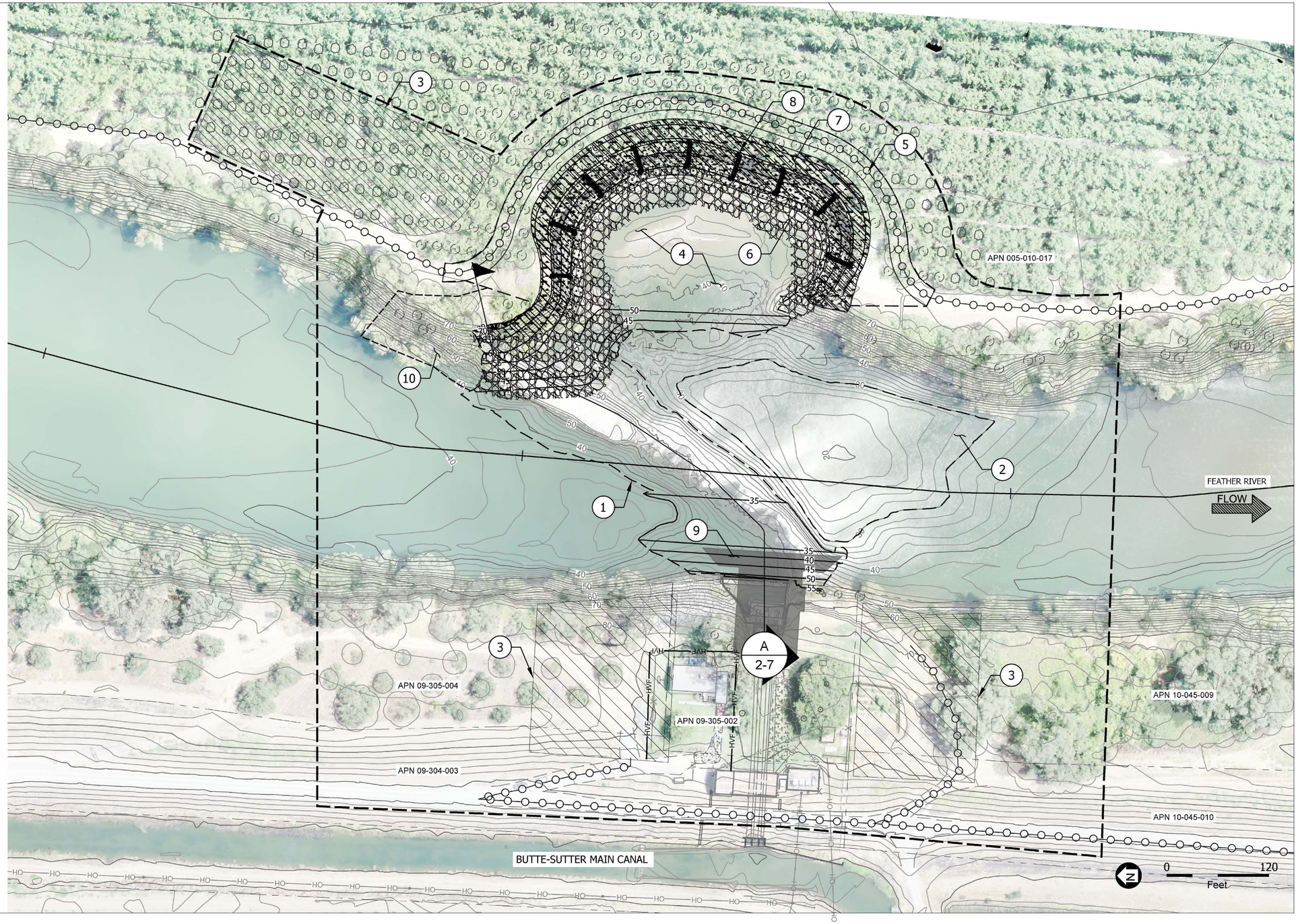
1. REMOVE EXISTING WEIR TO EL 35 TO 37 FT (NAVD88)
2. FILL EXISTING SCOUR HOLE EL VARIES UP TO 30 FT MAX (NAVD88)
3. FILL LEFT BANK SCOUR HOLE EL VARIES BETWEEN 47 FT MIN AND 54 FT MAX (NAVD88)
4. INSTALL TEMPORARY STAGING AREA
5. CONSTRUCT CONSTRUCTION ACCESS ROAD
6. INSTALL VEGETATED ROCK SLOPE PROTECTION (BIOENGINEERED BANK STABILIZATION ROCK)
7. PLANT UPPER BANK
8. INSTALL WILLOW BAFFLES
9. REMOVE AND/OR REPLACE EXISTING PUMPS, PUMP SUPPORT STRUCTURE, INTAKES/PIPING WITH CONE FISH SCREENS, AND WET WELL, BY OTHERS
10. ADDITIONAL GRADING TO CONFORM WITH BANK AREA DOWNSTREAM

NOTE

1. ORTHORECTIFIED AERIAL IMAGE (ESA, AUGUST 2023).

LEGEND

- PARCEL LINES
- PROJECT LIMIT
- GRADING LIMIT
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING FENCE
- PROPOSED MAJOR CONTOUR
- CONSTRUCTION ACCESS ROUTE



PROJECT AREA OVERVIEW
PLAN SCALE: 1"=80'

Sunset Weir and Pumps Fish Passage Project

Figure 2-4
On-Site Project Components

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KEYED NOTE

(1) ALTERNATIVE OFF-SITE STAGING AREAS

LEGEND

PARCEL LINES

PROJECT LIMIT

CONSTRUCTION ACCESS ROUTE

LEVEE

0 1500
Feet

LEVEE
SHAUNA WAY
BOYER RD
SCHULER LN
HONCUT CREEK
FLOW
FLOW
LEVEE
BUTTE-SUTTER MAIN CANAL
LIVE OAK RIVERFRONT PARK BOAT LAUNCHING FACILITY
SUTTER MAIN CANAL
SUNSET WEIR AND PUMP STATION
FEATHER RIVER
PENNINGTON RD
ARCHER RD
KENT AVE
KENT AVE
BUTTE-SUTTER MAIN CANAL
CUTTING AVE
METTEER RD
SHELDON AVE
BISHOP AVE
PASEO RD
MCDONALD AVE
CITY OF LIVE OAK
SINNARD AVE
CA 99

Sunset Weir and Pumps Fish Passage Project

Figure 2-5
Alternative Staging Areas

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View of rock weir and the Sunset Pump Station from downstream on June 24, 2015



View of the Sunset Pump Station and the South, Middle, and North pumps from left to right

Source: California Department of Water Resources

Sunset Weir and Pumps Fish Passage Project

Figure 2-6
Photos of the Sunset Weir and Pumps

2.3 Project Purpose and Objectives

The Sunset Weir impedes passage for protected migratory fish species, particularly Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run Chinook salmon (listed as threatened under the Federal Endangered Species Act [FESA] and the California Endangered Species Act), Southern Distinct Population Segment green sturgeon (*Acipenser medirostris*) (listed as threatened under the FESA), and Central Valley steelhead (*Oncorhynchus mykiss*) (listed as threatened under the FESA). The weir provides a hydraulic control for SEWD to divert water from the Feather River at the Sunset Pump Station. To address both fish passage and water supply, the goals and objectives of the Proposed Project are:

Goal 1: Accommodate passage of protected migratory fish species at Sunset Weir.

Supporting Objectives:

1. Remove physical barriers (i.e., Sunset Weir) to upstream migration of adult green sturgeon and salmonids.
2. Provide a stable transition from upstream to downstream and restore hydraulic/riverine conditions (e.g., depth, velocity, drop heights) conducive to adult and juvenile green sturgeon and salmonid passage.
3. Minimize predation and disorientation of downstream-migrating juvenile green sturgeon and salmonids.
4. Minimize potential for impingement of juvenile green sturgeon and salmonids at the Sunset Pumps intake facility by meeting current fish screen criteria.

Goal 2: Preserve overall water delivery system stability and reliability with no change in SEWD's capacity and operational flexibility to deliver water to its customers.

Supporting Objectives:

1. Meet optimal submergence criteria for pumps to continue to divert water from the Feather River under lower head conditions following removal of Sunset Weir.
2. Minimize disruption to SEWD's customers during construction.
3. Consider long-term operation and maintenance in the design, including sediment dynamics, at the new screens/pumps.

2.4 Proposed Project Elements

The Proposed Project would comprise three main elements: weir removal and river restoration, replacement and upgrade of the pump station and installation of new fish screens, and stabilization of the left bank failure area.

2.4.1 Sunset Weir Removal and Feather River Restoration

Removal of the Sunset Weir would restore unimpeded passage so that migratory fish could access the 28.5 miles of the Feather River from the Sunset Weir (River Mile 38.5) upstream to the existing Feather River Fish Barrier Dam (River Mile 67). This includes access to documented spawning habitat for green

sturgeon from the Thermalito Afterbay Outlet pool upstream to the Fish Barrier Dam; historically, this habitat was accessible only in years with high basin discharge (Seesholtz et al. 2014).

Weir removal would also allow for a more natural riverine morphology with variable and distinct habitat types (e.g., deep pools and shallow riffles), as compared to the current backwatered and more slough-like conditions that persist for miles upstream of the existing weir; in this way, weir removal would restore natural fish passage conditions for the Feather River channel. Weir materials would be removed and the weir footprint would be restored to match the existing natural channel bed. Suitable portions of the weir material and material imported for the construction of temporary access ramps and work pads would be used to partially fill the large scour hole in the river immediately downstream of the weir and/or in the left bank stabilization. The large scour hole is expected to fill naturally with river sediments (e.g., gravel) once the weir is removed, thereby creating a more natural morphology and a cap over any placed weir material.

The Proposed Project's design would provide for a stable grade transition from the weir removal footprint to the adjacent banks, maintaining a cross section geometry similar to that upstream and downstream and connecting with both the pump station and the left bank stabilization components. Disturbed areas at the channel banks and other areas determined to be at risk of erosion after removal of the weir would be protected with rock slope and/or bio-technical features, and other areas disturbed by construction and above the channel waterline would be protected by the establishment of non-woody vegetation.

The final grade of the restored Feather River channel would be designed to provide a stable transition from upstream to downstream, reduce scour downstream, and provide channel stability. The existing weir would be leveled to elevation 37 feet North American Vertical Datum of 1988 (NAVD88). Useable weir material would be placed in the downstream scour hole up to approximately elevation 30 feet NAVD88 and/or within the left bank stabilization area (see below); this design approach provides added flexibility for Proposed Project construction. **Figures 2-5** and **2-7** show the approximate grading limits, cross sections, and longitudinal profile within the Proposed Project site. Weir removal would eliminate the upstream backwater and water surface drop through the weir, restoring more natural flow patterns and properties (i.e., hydraulics) in the Feather River.

Fish Passage

The fish passage component of the Proposed Project would be achieved by removing the weir and restoring the channel to match natural grade. Passage improvements are intended to benefit all species; however, designs would focus on passage for adult Chinook salmon, steelhead, and green sturgeon. Although the Proposed Project involves removal of an instream structure (a weir) rather than construction or modification of a passage facility, the design for fish passage through the weir site was generally based on the stream simulation approach (National Marine Fisheries Service 2023a). Under this design approach, the weir would be removed in a manner that emulates, as much as practical, the morphology and hydraulic conditions upstream and downstream of the weir, providing for unimpeded, volitional passage at all anticipated flows and life stages. Therefore, apart from flow depth, hydrology and hydraulic design criteria that are typically used for the design of fish passage facilities or improvements are not explicitly applied here, but they were used as guidelines to identify potential fish passage challenges and to inform grading configurations under proposed conditions. A minimum flow depth of 5 feet for sturgeon passage, as referenced by the U.S. Bureau of Reclamation and DWR (U.S. Bureau of Reclamation and California Department of Water Resources 2018), was used to determine the weir removal elevation.

Design flows considered for the Proposed Project are summarized in **Table 2-3** and are based on guidance provided by NMFS (National Marine Fisheries Service 2023a, 2023b) and CDFW (California Department of Fish and Game 2002). Passage hydrology guidelines for native non-salmonids (California Department of Fish and Game 2002) were used as a general reference for green sturgeon due to a lack of guidance specific to this species. A wide range of flows, including median flows in addition to low- and high-fish-passage design flows, were considered to evaluate various hydraulic characteristics over the weir and under post-weir removal conditions. Design flows were derived from a flow duration analysis performed on mean daily flows reported between water years 1991 and 2018 at the U.S. Geological Survey (Station ID: 11407150) and DWR (Station ID: GRL) stream gauges located on the Feather River at Gridley.

Modeling was used to assess relevant hydraulic conditions upstream and downstream of the weir and to confirm that the Proposed Project (weir removal) would emulate these as much as practical, providing for unimpeded, volitional passage at all anticipated flows and life stages. Therefore, the final grade of the restored channel would meet fish passage criteria for upstream-migrating Chinook salmon and green sturgeon under both high- and low-flow conditions common during the February–June adult green sturgeon migration period and the March–September spring-run Chinook salmon migration period.

TABLE 2-3
FISH PASSAGE FLOWS FOR THE FEATHER RIVER AT GRIDLEY (WATER YEARS 1991−2018)

Passage Flows	Adult Sturgeon Migration Season (February−June)	Adult Spring-Run Chinook Migration Season (March−September)
High Passage Flow (cfs)[1]	18,400 [2]	30,500 [3]
Median Passage Flow (cfs)	2,130	3,160
Low Passage Flow (cfs)[4]	900	
Low Passage Flow (cfs) Less SEWD Maximum Diversion Water Right[5]	660	

Notes: cfs = cubic feet per second; SEWD = Sutter Extension Water District

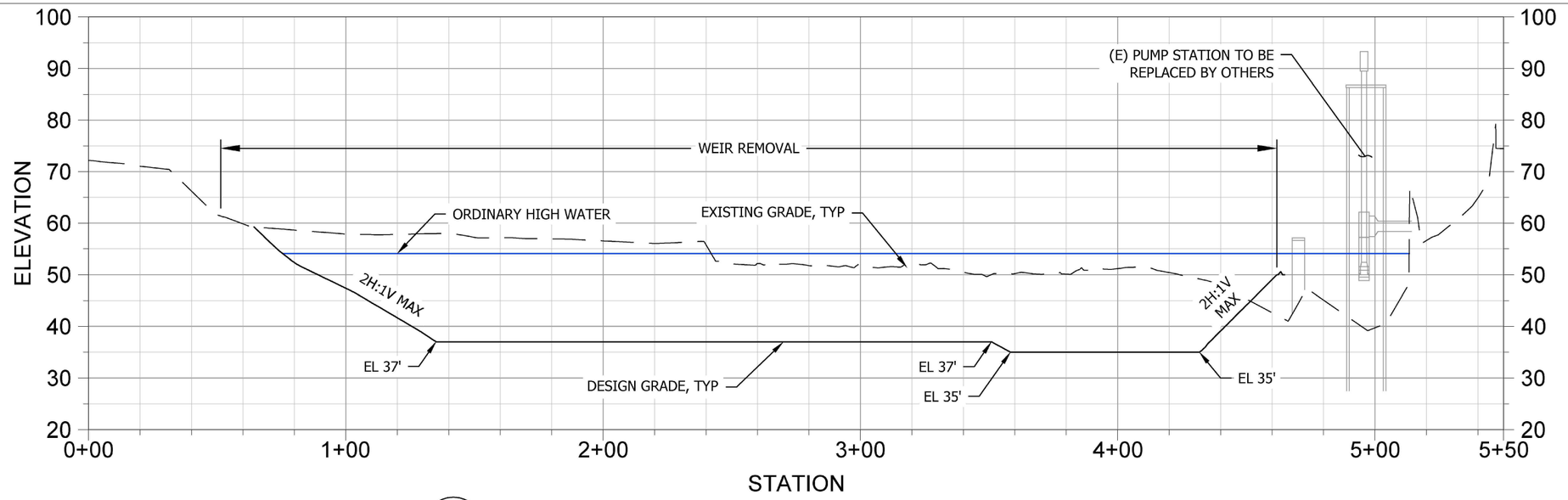
1. 5% annual exceedance flow for adult sturgeon migration season, and 1% annual exceedance flow for spring-run Chinook migration season.
2. 21,000 cfs with synthetic Honcut Creek flows included.
3. 34,130 cfs with synthetic Honcut Creek flows included.
4. 90% annual exceedance flow for adult sturgeon migration season, and 95% annual exceedance flow for spring-run Chinook migration season.
5. For areas upstream of the weir—97% annual exceedance flow for adult sturgeon migration season, and 98% annual exceedance flow for spring-run Chinook migration season.

Sources: National Marine Fisheries Service 2023a, 2023b; California Department of Fish and Game 2002

2.4.2 Sunset Pump Station Replacement and Upgrade

Concurrent with weir removal and river restoration, the Sunset Pumps would be replaced and upgraded to be able to operate under the lowered riverine hydraulic conditions to meet existing water supply obligations. This would involve replacing the pumps and motor units and slip-lining[3] or replacing associated discharge piping, constructing a new cast-in-place concrete structure (i.e., wet well) that would house the pumps and motor units, and installing contemporary fish screens that meet current criteria (**Figure 2-8**). The general changes required to operate the system effectively with the weir removed are described below.

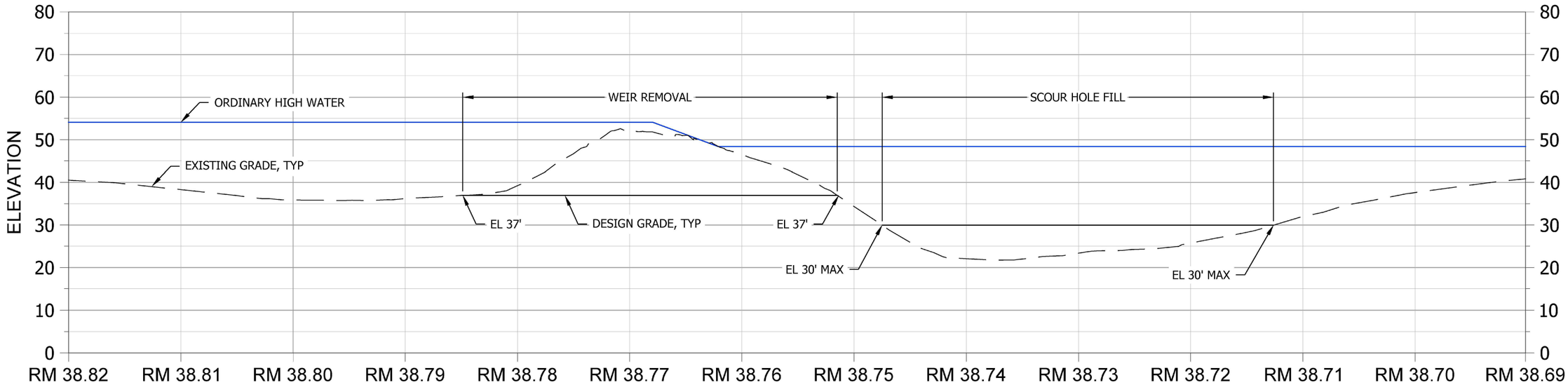
[3] Slip-lining is a pipe rehabilitation process in which a smaller diameter pipe is inserted into an existing pipe.



A
2-7

WEIR REMOVAL CROSS SECTION (LOOKING DOWNSTREAM)

SCALE: 1" = 50' H
1" = 25' V



FEATHER RIVER LONGITUDINAL PROFILE

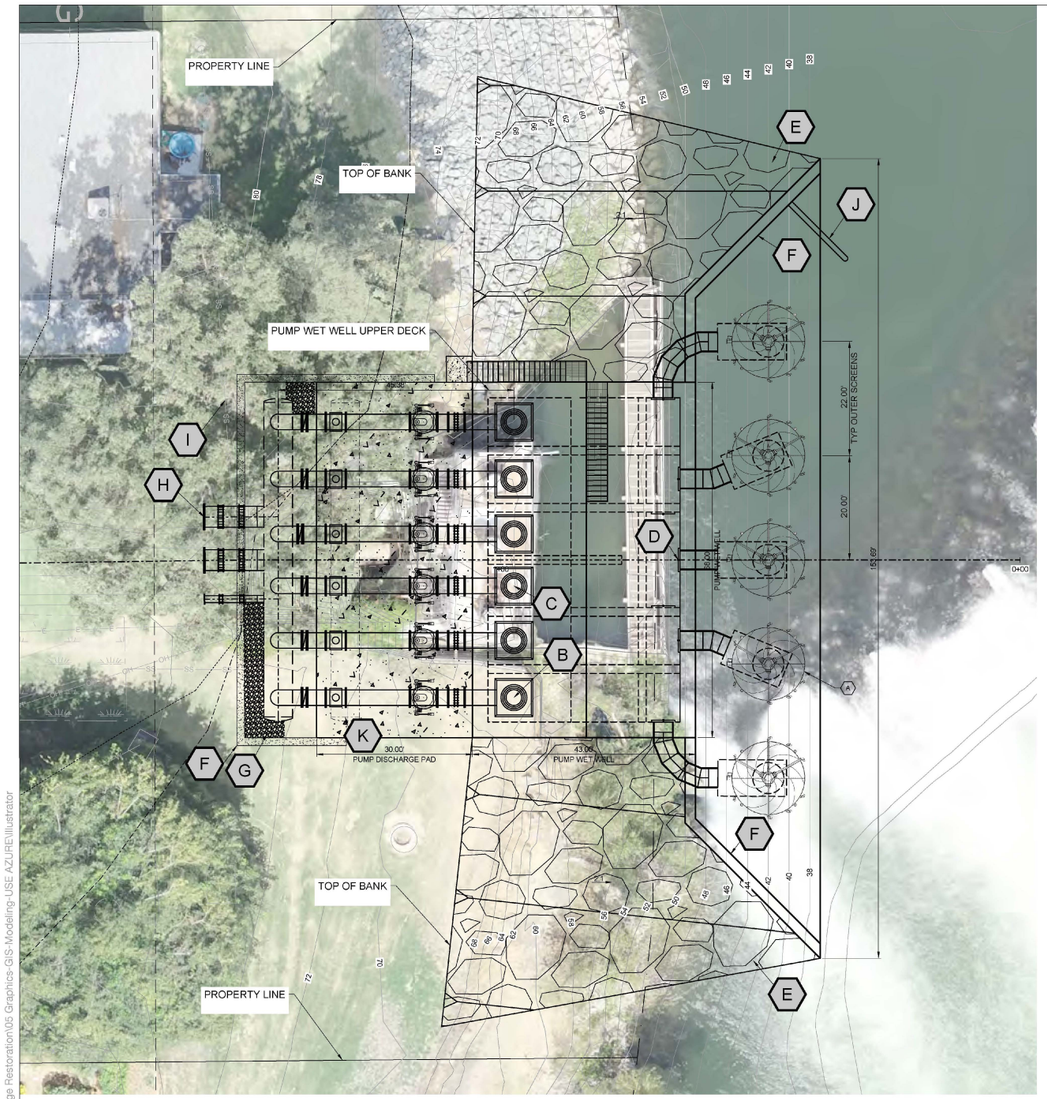
PROFILE

SCALE: 1" = 50' H
1" = 25' V

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ESA

Figure 2-7
Grading Profile

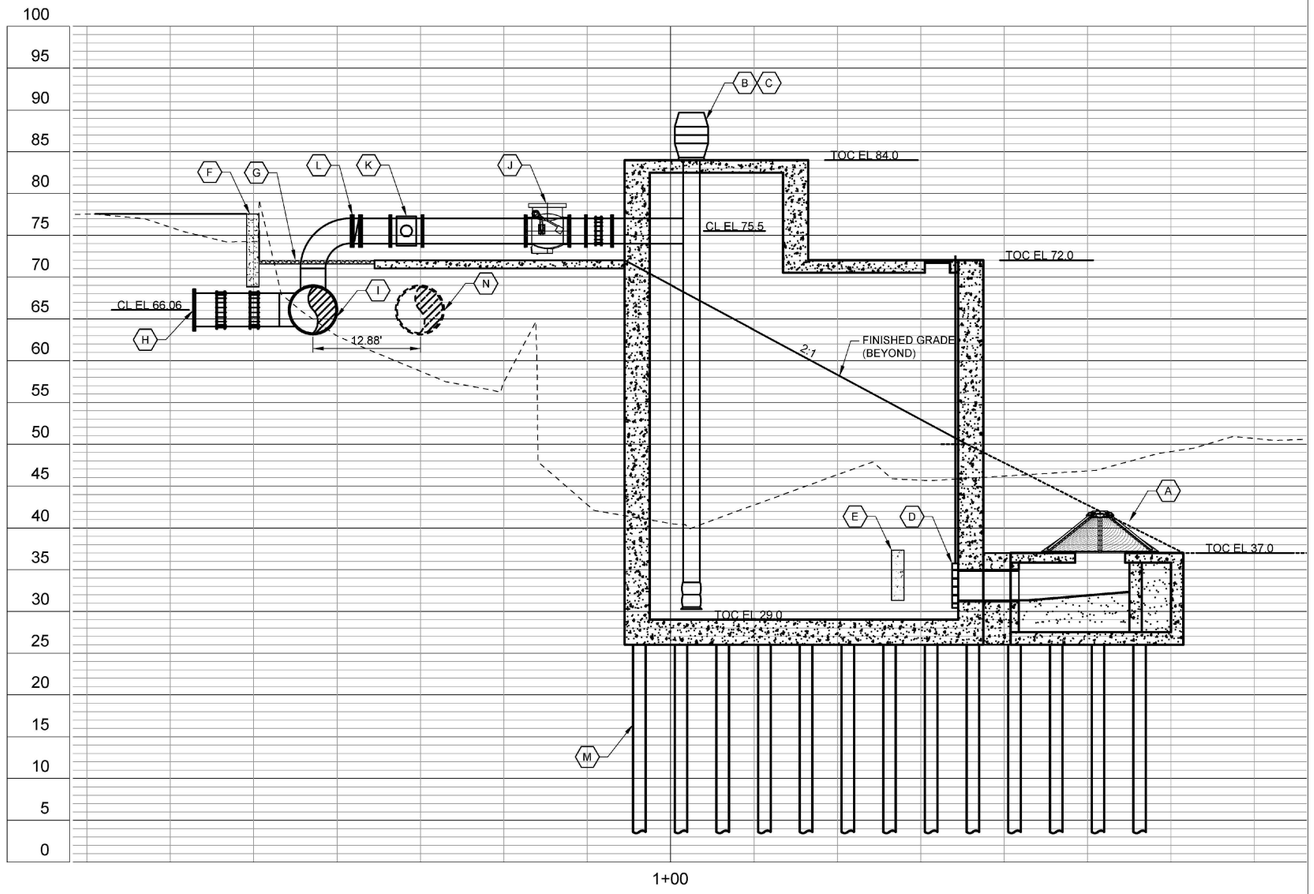


SHEET KEYNOTES

A. 14.0' DIA CONE SCREEN, TYP OF 5.
B. 53.5 CFS PUMP, TYP OF 4.
C. 10.0 CFS PUMP, TYP OF 2.
D. SCREEN ISOLATION GATE, TYP OF 5.
E. RIP RAP SLOPE PROTECTION.
F. RETAINING WALL.
G. CLASS II AGG BASE.
H. PIPE CONNECTION LOCATION.
I. RELOCATE EXISTING SANITARY SEWER.
J. DEBRIS DEFLECTOR
K. APPROXIMATE MANIFOLD LOCATION

N

0 10 20 Feet



SHEET KEYNOTES

A. 14.0' DIA CONE SCREEN, TYP OF 5.
B. 53.5 CFS PUMP, TYP OF 4.
C. 10.0 CFS PUMP, TYP OF 2.
D. SCREEN ISOLATION GATE, TYP OF 5.
E. BAFFLE WALL.
F. RETAINING WALL.
G. CLASS II AGG BASE.
H. PIPE CONNECTION LOCATION.
I. ALTERNATE MANIFOLD LOCATION
J. CHECK VALVE
K. MAG METER
L. BUTTERFLY VALVE
M. STRUCTURE PILES
N. ALTERNATE MANIFOLD LOCATION

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SOURCE: Stantec, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 2-8
Proposed Pump Station and Fish Screen Modifications
Layout and Profile

ESA

Pump Motors and Discharge Pipes

With the weir removed, the water surface during pump operation at lower flows would be up to approximately 9 feet lower than baseline conditions. This would require replacing the three existing vertical turbine pumps and motor units with six vertical turbine pumps and motor units capable of efficiently overcoming the increased static head due to lower river levels. Assuming a typical canal water level of approximately 79 feet NAVD88 and a proposed low water surface elevation of approximately 42 feet NAVD88 (corresponding to 390 cubic feet per second [cfs] or the lowest observed river flow), required static head for the new pumps is estimated to be 37 feet. Total flow capacity for the pumps would not change, as the total diversion requirement of 234 cfs would remain the same. Four 46 cfs capacity pumps and two 25 cfs capacity pumps are proposed to meet the total flow requirement. Variable-frequency drives would be added to each 25 cfs pump unit to allow the system to operate efficiently over a wide range of water surface levels.

Pump control panels, drives, and an electrical main breaker and transformer would be located either adjacent to the existing valve house, on the pump plant structure, or split between both locations. A new transformer would be required to meet the higher power demands of the new pump station. The new transformer would be located at the current location of the existing transformer between the Pacific Gas and Electric Company substation on site and the valve house. A sediment control system would be installed including a dedicated sediment control pump and piping to flush accumulated sediment from the pump station's wet well and away from the fish screens.

With replacement of the pumps, the pump suction piping (i.e., an approximately 50-foot-long shaft) would be replaced for each pump unit. The discharge piping from each pump unit would be directed to a manifold constructed perpendicular to the discharge pipes. The existing 150-foot-long discharge lines extending from the discharge side of the pumps to the valve house for the existing Middle and South pumps would be upgraded to improve pump performance. No action is proposed for the discharge piping at the north end of the manifold, which was rehabilitated in 2023. Approximately 130 feet of the existing 60-inch middle pipe and 130 feet of the existing 24-inch south pipe would be slip-lined or excavated and replaced (if slip lining is not possible). The middle pipeline would be slip-lined with a 54-inch pipe if possible and the south pipeline would be slip-lined with an 18-inch pipe if possible. The existing 48-inch pipeline would be protected in place and used as is. Approximately 90 feet of pipelines that are located in the existing valve vault immediately west of the pumps and the outlet to the Main Canal may be removed and replaced.

Wet Well and Pump Support Structure

The existing wet well, pump support structure, and pipe vault would be replaced to accommodate lower water surface elevations after weir removal. The new wet well and pump support structure (combined) would be an approximately 65-foot by 75-foot concrete closed vault that would be connected to the Feather River via new screened intake pipes. The bottom of the wet well would be set at least 12 feet deeper on average than the existing bottom (or approximately 40 feet deep) to accommodate the installation of the fish screen intake pipes and to maintain minimum submergence of the pumps at the lower water level expected under post-weir removal conditions. Thus, flow into the wet well would be constant as long as the pumps are operating. It is assumed that head loss through the fish screen system would be minor, and thus the water surface elevation in the river would be similar to that inside the wet well.

The enclosed wet well would prevent fish, large debris, and coarse sand (i.e., larger than the fish screen slot of 1.75 millimeters) from entering the wet well. It is expected that inflows from the fish screen intake pipes and an integrated sediment control system would adequately induce mixing to generally keep fine sediment in suspension. Much of the sediment in suspension would be pumped out of the wet well and into the canal or flushed back out to the river, effectively minimizing sediment accumulation within the wet well and from around the screens.

The pump station would consist of two decks: one piping-level deck at grade containing the pump discharge piping, and one top-level deck where the motors and motor control equipment would sit above the 200-year water surface elevation. The height difference between the two decks would be approximately 12 feet and the decks would be accessible by stairway; this split configuration would minimize the extension of the structure above grade.

The wet well would be equipped with an access hatch in the top elevated deck to provide access for maintenance, as necessary. The wet well would also feature manually operated slide gates on the interior of the river-facing wall of each intake pipe to prevent river water from entering the area during maintenance.

Fish Screens

Concurrent with the replacement of the wet well, pump support structure, and pump upgrades, the existing flat fish screen at the pump station would be replaced with new conical fish screens that meet current standards. Based on the maximum SEWD diversion capacity (234 cfs), the fish screen criteria published by NMFS (National Marine Fisheries Service 2022) and/or CDFW (California Department of Fish and Game 2002) would be adopted for design. The proposed fish screen setup would consist of five cone-shaped, stainless steel wedge wire screens (slot size of 1.75 millimeters), each measuring 14 feet in diameter and 5 feet high, that would be secured to a precast or cast-in-place concrete slab or prefabricated epoxy-coated steel frame (approximately 100 feet long by 24 feet wide). Each screen would connect to a 42-inch-diameter intake pipe (approximately 15–30 feet long) that would supply water to the wet well. Alternatively, the screens may be supported by a reinforced concrete structure whereby the screens deliver water directly to a vault beneath the screens connected to the overall sump structure (eliminating the 42-inch intake piping).

The screens would be equipped with automatic rotating brushes to keep them clear of debris and sediment, and a control panel would allow user-defined cleaning cycles and system monitoring. The screen size and quantity were selected to achieve the maximum required diversion rate (234 cfs) during low-flow conditions (390 cfs) and meet the approach velocity criterion for fish protection and debris accumulation (0.33 foot per second). Diversion from Sunset Pump Station would occur seasonally, generally from April through August.

2.4.3 Left Bank Stabilization

In fall 2019, a portion of the Sunset Weir was damaged by higher flows, concentrating flows on the left (east) bank of the Feather River and resulting in rapid erosion of the channel bank (**Figure 2-9**). The damaged portion of the weir was repaired, although the erosion initiated by this event has continued to progress. Bank stabilization work on the left bank would be implemented as part of the Proposed Project.



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SOURCE: ESRI et al. June 2018 Satellite Imagery; DWR November 2019 Orthoimagery; ESA August 2023 Orthoimagery

Sunset Weir and Pumps Fish Passage Project

Figure 2-9
Left Bank Erosion (2018-2023)

ESA

This bioengineered bank stabilization project element supports the goals of the PEIR to restore streambanks to a grade that is suitable for riparian vegetation establishment, uses a diverse assemblage of riparian plant species appropriate for the project area, and limits the extent of rock placement to that which is necessary to prevent scour from expected moderate to high flows. The work would involve flattening the eroding bank to a 3 horizontal to 1 vertical (3:1) slope and protecting most of it against further failure and erosion using vegetated rock slope protection and bioengineering methods. The toe and lower portion of the vegetated rock slope protection would be stabilized with rock slope protection up to the ordinary high-water mark, with longitudinal peak stone toe protection, and with willow pole baffles planted perpendicularly to the flow. A new gravel construction access road would be constructed along the top of bank.

All or a portion of the removed weir material, as well as any surplus gravel for constructing a temporary work pad, would be used to fill the low points and partially build up a benched surface within the circular, scoured left bank failure area adjacent to the main channel. The filled portion of the left bank failure area would be covered or capped with appropriate sediments and/or soils and revegetated. As feasible, the material cut from the banks to implement the 3:1 slope would be used for this purpose; otherwise, some material would be imported.

2.4.4 Proposed Construction Methods

Construction Schedule

Construction of the Proposed Project is anticipated to begin April 15, 2027, upon receipt of regulatory and permit approvals and would require up to three consecutive construction seasons, depending on field conditions.

The anticipated timelines include conducting dry work (such as construction staging, utilities relocation, pump station startup, and testing) outside of the flood season over a period of 6.5 months between April 16 and October 31 (based on California Code of Regulations Title 23, Section 112), and in-water work that is outside of the cofferdams during a 2.5-month period between July 15 and September 30 per the NMFS Restoration Biological Opinion for the Feather River, which falls under Management Unit 4. All in-water components of the Proposed Project are expected to be completed outside the wet season.

Construction would typically occur Monday through Friday, 12 hours per day, between 7 a.m. and 7 p.m. Construction times may be extended into the night or weekend during key times of the construction phase, as needed. Adjacent landowners and SEWD would be notified before the start of construction activities.

Site Access, Mobilization, and Staging

The Proposed Project is anticipated to require up to 65 workers for removal of the weir, the pump station replacement and upgrade, and the left bank stabilization work. Assuming that workers travel from nearby cities, Yuba City and Live Oak (approximately 10 miles south and 3 miles north of the Sunset Pump Station, respectively), the workers are anticipated to travel between 6 and 20 miles each day. Workers would access the portion of the Proposed Project site located along the left (east) bank of the Feather River via State Route 70 and existing unnamed dirt- or gravel-surfaced agricultural roads; they would access the portion of the site located along the right (west) bank of the Feather River via State Route 99

and the river's west levee. Worker vehicles would be parked in the staging areas shown in Figures 2-4 and 2-5, on the levee road where the levee is close to the construction footprint, or at the existing Sunset Pump Station.

Construction trucks would be parked in the staging areas shown in Figures 2-4 and 2-5 or at the existing Sunset Pump Station during work hours. Construction equipment and materials storage, fueling, maintenance, and fuel and oil storage areas would be isolated using methods complying with an approved water quality protection plan (e.g., stormwater pollution prevention plan [SWPPP]). Most of the proposed staging areas are located outside of SEWD property boundaries and temporary construction easements would be obtained before use. The staging areas on the left (east) bank would be within the property boundaries of APN 005-010-017. The staging areas on the right (west) bank would be on private properties adjacent to the Sunset Pump Station (APN 09-305-003 to the north and APN 10-045-009 to the south).

For weir removal and left bank stabilization, truck drivers transporting construction materials to and from the Proposed Project site would travel approximately 60 miles up to four times daily (for a total of 240 miles daily). It would take up to 50 days to haul off and 21 days to import materials using 15 dump trucks of 12 cubic yards capacity. This assumes an average truck speed of 35 miles per hour, with quarry and disposal sites located within a 30-mile radius of the Proposed Project site. Additionally, the analysis assumes that the hauling process would require minimal wait time (20 minutes maximum per trip) for loading and offloading.

The removal of the existing weir and filling of the left bank stabilization area and/or river scour hole would be facilitated with heavy equipment (e.g., excavators, haulers, and cranes) that would be staged on the existing weir and/or temporary work surfaces. If needed, barge systems would also allow an excavator to move close to the weir and scour hole safely and would be used to shuttle equipment and excavated materials.

Excavated weir material would be transported and permanently deposited in the left bank stabilization area and/or scour hole immediately downstream of the existing weir. Any unused weir material or excavated soil from the left bank would be hauled offsite (hauled in trucks to the spoils sites; placed on access roads, toe roads, private property, or agricultural lands with appropriate approvals; or disked into the ground or road surface once dry. As necessary, excavated material would be temporarily stockpiled in staging areas depicted in Figure 2-4 (three locations labeled "3") and Figure 2-5 (four locations labeled "1"). Temporary stockpiling may also occur within the in-water portions of the Feather River during construction of temporary in-water work pads.

Staging areas and the construction footprint would be cleared and grubbed before construction. All concrete, steel, and demolition debris would be hauled away and disposed of in an approved disposal facility by the contractor.

The construction area would be clearly marked with fencing and security measures would be implemented to protect the Proposed Project site and equipment. Security measures would include security-grade fencing and nighttime lighting for areas within the site (e.g., staging locations with equipment or materials).

Construction Activities

Construction activities associated with the removed weir, filled downstream scour hole, three main staging areas adjacent to the river and weir site, left bank stabilization, temporary access, temporary pumps, and the four alternative staging areas and SEWD's maintenance yard would disturb up to approximately 8.5 acres. A total of approximately 34,500 cubic yards of native soils would be excavated, consisting of approximately 12,500 cubic yards from the weir, 20,000 cubic yards for stabilizing and bioengineering of the left bank, and 2,000 cubic yards of existing channel bed material (sand, gravel, and cobble) at a depth of approximately 20 feet for construction of wet well and fish screen inlet pipes.

Up to approximately 20,000 cubic yards of excavated material from the left bank, 10,100 cubic yards of weir material unsuitable and/or not needed for reuse, and 2,000 cubic yards of unsuitable wet well material would be hauled off site for disposal. Some of the excavated material from the bank grading may be reused to cover (or cap) the adjacent left bank scour area filled with placed weir material, and the vegetated rock slope protection area; this would provide substrate for revegetation through both proposed planting and natural recruitment. Additionally, about 5,000 cubic yards of vegetation, trees, and debris generated from demolition, and clearing and grubbing of the weir removal and left bank stabilization would be exported off site, although—as with the left bank excavated material—some of this material may also be reused in filling the left bank scour area. Construction would result in the placement of approximately 5,000 cubic yards of concrete for the pump station.

Temporary pumps, provided, operated and maintained by the construction contractor, would be located in the river immediately upstream (north) of the cofferdam to maintain SEWD deliveries during construction; SEWD would support and/or direct operation of the temporary pumps. Historical Sunset Pump Station diversion rates (2009–2021) show a maximum diversion of 186 cfs, typically in May. Based on these historic diversion rates, a 200 cfs maximum temporary pumping capacity is assumed. Water would be pumped into temporary piping (likely high-density polyethylene) that would be placed on the riverbank and ground (not buried). This temporary piping would connect directly into the existing 24-inch, 48-inch, and 60-inch pipelines. The existing pipelines would be used to convey water to the canal from the temporary pumps during construction. All temporary pumping work would be done above grade with no excavation necessary.

The pumps would require 24-hour-a-day operation and would use electric power. The construction contractor would at a minimum be required to have adequate pumping systems in place during the 6-month irrigation period in each year of construction until the new pump station is tested and substantially complete (i.e., ready for operation).

All construction activities would be performed in accordance with the requirements of applicable regulatory permits. Additionally, best management practices conforming to an approved SWPPP and other applicable temporary stormwater control facilities would be implemented and maintained to control erosion and the release of sediment into the Feather River.

Sunset Weir Removal and Feather River Restoration

Weir removal would involve excavating and removing the existing rock (approximately 12,500 cubic yards, or 55,500 square feet [410 linear feet]) down to the approximate natural channel bed elevation. Temporary work pads and access would be constructed along the existing weir and on each side of the river for heavy equipment and, as needed, to facilitate barge access.

Construction of the work pads and access routes would not require subsurface disturbance; they would be constructed using loaders and long-reach excavators. If needed, a crane would be staged on the east-bank work pad to assemble modular barges at the eastern edge of the river where velocities are expected to be low. Temporary sheet piles may be placed at the toe of the river embankment to protect areas of the left (east) bank from scour before weir removal is initiated. An excavator would be used to initiate a notch on the eastern portion of the weir, and then as the water level recedes removal of that section of weir would continue from west to east. With the water surface lowered, and in coordination with the installation of the cofferdam for the pump station, the remainder of the weir would be removed working from east to west back to the right (west) bank. The work pad and access ramp on the east bank would be used to remove the barge system and other in-water equipment, if necessary.

Excavated weir materials, and potentially materials used to construct the temporary work pads, would be used to partially backfill the downstream scour hole and/or would be placed within the left bank fill area. The top layer of the fill at the downstream scour hole would consist of coarse sand and gravel to provide an enhanced resting pool for fish. Once the weir is removed, the scour hole in the river is also expected to partially fill in naturally over time with bed material transported by the river. It is anticipated that approximately 30 percent of the weir material would be unsuitable to fill the downstream scour hole and/or left bank area and would be hauled away by the contractor and disposed of in an approved disposal facility.

A total of 8,000 cubic yards of gravel- and cobble-sized angular rock would be imported to construct the temporary in-water work pads and ramps. Rock would be trucked to the site from nearby quarries, such as potentially the Parks Bar Quarry in Smartsville (operated by Nordic Industries). Ultimately, although existing rock materials in the weir would be reused on site as much as possible, imported rock materials would be needed to meet all fill needs.

Weir removal and Feather River restoration is expected to be completed in one construction season. During construction, flows would be partially controlled by timing the removal and notching the weir in stages, as described in the weir removal approach above; no major rerouting of river flows is proposed. During initial weir notching, SEWD may work and coordinate with DWR to temporarily reduce flow releases from Lake Oroville to facilitate a safe working environment for heavy equipment (the duration of any temporary flow changes would likely be on the order of a few days at most). Additionally, isolation of select areas along the channel bank from open river flows would be completed as necessary using cofferdams or similar structures, e.g., to facilitate the replacement and upgrade of the Sunset Pump Station. Before construction, fish salvage and dewatering with approved screening would be conducted.

Sunset Pump Station Replacement and Upgrade

Pump station replacement and upgrade activities would include replacing the pumps and slip-lining associated piping, constructing a new wet-well pump support structure, and installing contemporary fish screens that meet current criteria. The wet well and pump station construction would be completed over up to three construction seasons. The wet well would be deepened or reconstructed to meet the new pump submergence requirements. The site controls would be updated to accommodate the new pumps and the new range of depths and flows, including electrical sitework, new controls, a new transformer and pad, and new electromagnetic flow meters for monitoring flow. The pump support structure would be constructed atop the wet well and would occupy a footprint similar to the current footprint.

Replacement and upgrade of the Sunset Pump Station would require in-water work and isolation of the work area from the Feather River. A cofferdam would be constructed to isolate the work area from the river. The cofferdam would consist of sheet pile walls and would be installed between July 15 and September 30 after the removal of all or most of the weir. The sheet pile wall would be installed using a crane staged on the riverbank or from a barge system using an excavator with a pile driving attachment. The above-grade sheet piling would be removed after completion of the pump station and fish screen installation. Before construction, fish salvage and dewatering with approved screening would be conducted. After construction, the cofferdam sheets would be cut at riverbed grade, abandoning all sheet pile below grade in place. The abandoned sheet pile would provide added scour protection to the pump station structure's deep pile foundation.

Approximately 500 linear feet of sheet pile would be installed to create the cofferdam to enable dewatering of the work site, protect the workers, and avoid direct impacts on the active channel of the Feather River. The pile driving for the water intake structure would be done through impact or vibration techniques and would take approximately 2 months. Once the cofferdam is in place, the river channel within the cofferdam would be excavated several feet below the existing river bottom elevation. Excavated materials would either be used in on-site fills (once conditioned for use as fill), disposed of on site at a designated spoil area, or transported to an approved off-site disposal location. After excavation of the foundation of the intake structure, structural support (friction) piles or drilled piles would be installed in the river bottom inside the cofferdam. A tremie concrete slab or seal (concrete placed under water) would be placed inside of the cofferdam limits to seal the bottom of the cofferdam and reduce river inflow to the cofferdam during construction. Additionally, dewatering wells may be installed within the cofferdam to help maintain water levels below the level of construction. The work area within the cofferdam would be dewatered continuously during construction. The water pumped during the dewatering operation would be discharged into the existing SEWD Main Canal when the canal is operational. Clean water from dewatering wells or sump pumps is proposed to be discharged back to the river.

A fish rescue and salvage plan would be implemented before cofferdam installation, which would minimize potential construction-related effects on species present within the Proposed Project site.

After stabilization of the area within the cofferdam and placement of structural piles within the cofferdam to provide structural support for the intake structure, the intake structures would be formed and concrete would be placed. Mechanical equipment, including pumps and fish screens, would then be installed. The sheet piles on the screen side (i.e., water side) of the screened intake structure would then be cut off at minimum elevation 37 feet (NAVD88) mean sea level. The other cofferdam sheet piles below ground would remain in place. Riprap would be placed around the intake structure with cranes to prevent scour and bank erosion. Before placement of the riprap material, surface material would be removed using an excavator and appropriate silt barrier. Excavated material would be placed in trucks and disposed of off site. The area between the sheet pile and the shore would then be backfilled to elevation 37 feet, with a slope of up to 2 horizontal to 1 vertical (2:1) to the intake structure access road or the deck of the "heel" of the intake structure. The 2:1 slope would be vegetated to prevent erosion. A chain link fence would be installed along the roadway side of the intake structure and there would be a locked gate at the entry to the structure.

Control Panel and Electrical Site

Up to 12 individual panels and pieces of equipment would be required for the power supply and control of the new pump station. These panels include four soft-start pump control panels, two variable-frequency

drive panels, a sediment control system panel, a remote telemetry unit panel, a 120-volt transformer, a 480-volt main breaker, and an automatic transfer switch for generator backup power. The control panel site would be located immediately adjacent to the northeast corner of the existing valve house and south of the driveway, or alternatively, at the pump structure's upper deck. The proposed control panel site would be constructed on an earth fill pad built up to a finished grade 2 feet above the 200-year flood water surface elevation to protect the equipment from potential flooding.

The equipment would be protected via an 8-foot-high chain-link site security fence. Steel decking overhang shade structures would be installed over the top of panels and equipment.

Left Bank Stabilization

Bank stabilization work on the left bank is anticipated to require just one construction season. The work would involve flattening the eroding bank to a 3:1 slope and protecting most of it against further failure and erosion using a vegetated rock slope protection treatment and incorporating bioengineering measures. The rock slope protection would be covered with soil, vegetated with willow pole plantings, and extend approximately 5 feet above the proposed toe to a water surface elevation corresponding to the 2-year flood event. The section of bank above the vegetated rock slope protection would be planted with native container plants and elderberry seedlings. The regraded bank toe would be stabilized with rock extending approximately 5 feet below the existing bank toe and would have sufficient volume to allow for "launching" to an anticipated scour depth. Clusters of willow pole plantings would be installed generally perpendicular to the stabilized bank for roughness, to trap fine sediment, and to recruit vegetation along the lower bank.

Some or all of the excavated weir material would be used to fill the low points of the scoured area along the left bank. The filled portion of the left bank failure area would be covered or capped with appropriate sediments and/or soils and revegetated. As feasible, the material cut from the banks to implement the 3:1 slope would be used for this purpose; otherwise, some material would be imported.

The initial notching and degrade of the weir would direct flow toward the left bank; therefore, the work area for the left bank stabilization would be isolated from the river by installing a low-elevation sheet pile wall. Access for equipment to work from the bottom or toe of the left bank area would be provided via the initial 3:1 slope cuts. The sheet pile wall would be removed or cut off at grade upon completion of construction activities.

Approximately 20,000 cubic yards of native soil would be excavated and up to approximately 200 orchard trees would be removed for the left bank stabilization and transported off site. A total of 5,600 cubic yards of material would be imported, consisting of approximately 4,300 cubic yards of quarter-ton rock, 1,000 cubic yards of bedding material for the vegetated rock slope protection, and 300 cubic yards of gravel-sized material for the proposed construction access road along the left bank.

2.4.5 Anticipated Construction Equipment

Two basic types of construction equipment would be used for the majority of the work:

- One or more cranes operating from the channel bank may be needed for select work, but the production rate would be relatively low.

- Traditional land-based earthmoving equipment would be used along the channel bank. This equipment may be used within the river channel if temporary in-water work pads/accessways could be installed so that equipment could safely operate in the river.

Table 2-4 lists the construction equipment that would likely be required to construct the Proposed Project.

TABLE 2-4
ANTICIPATED CONSTRUCTION EQUIPMENT

Type of Equipment	Average Use (total hours)[1]
Excavator	2,072
Crane	2,060
Dozer	3,120
Front-end loader	3,666
Crawler loader	1,680
Barge	2,040
Boat	1,200
Water truck	4,086
Generator	7,152
Dewatering pump	1,200
Temporary pump	3,120
Concrete mixing truck	1,536
Concrete pumping truck	1,408
Dump/haul/rock truck	3,564
Flatbed truck	1,468
Pickup truck	11,128
Truck tractor	120
Hydromulcher	120
Wood chipper	240
Compactor	1,398
Concrete vibrator	1,368
Other handheld equipment (e.g., chain saw)	6,638
Temporary river diversion pump system—submersible pump operation	10,080
Cofferdam dewatering pump system	672
Pile driver—structural foundation Piles	378
Small boom truck	324
Welder	168

Note:

1. Duration assumes a worst-case scenario of three 130-day construction windows (April 16 to October 31) for dry work and three 50-day construction windows (July 15 to September 30) for in-water work, working 5 days a week, 8 hours per day during those work windows.

Source: Data compiled by Environmental Science Associates in 2024 and Stantec in 2025

Water trucks would be used for dust control on the Proposed Project site and along haul routes. Surface water from the Feather River or adjacent canals would be used for dust control; the contractor would make prior arrangements with the reclamation districts or adjacent landowners and appropriately sized intake screens would be used.

2.4.6 Operation and Maintenance

SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the Sunset Pump Station, fish screens, and their related appurtenances. The maintenance activities would include sediment removal, minor erosion repair, debris removal, revetment replacement, or other activities necessary to ensure the continued efficient operation of the pump station.

Sunset Pump Station and Fish Screen Maintenance

As with existing conditions, sediment and debris (e.g., large wood) may accumulate near the Sunset Pump Station and proposed fish screens. Thus, monthly maintenance would be necessary to ensure that the pump station and fish screen continue to function as intended.

Staging, materials stockpiling, and equipment access for these activities would be carried out in developed or disturbed areas of the Proposed Project site, including the work pad area, roads, and level areas that are used regularly for maintenance of the facilities. It may also be necessary to remove and have the screens and related equipment shipped to an off-site facility for repair and/or cleaning.

Tree canopy trimming would be necessary to maintain vehicular access to the pump station.

Sediment and Debris Removal

The fish screen and pump station would include a pumped water jet system to prevent sediment from accumulating and affecting facility hydraulics. The sediment control system pumps would be submersible or vertical turbines located in the wet well. Pump discharge would be piped to stainless steel spray jet manifolds to resuspend any accumulated sediment in the pump bays and the cone screens. The spray jets in the manifold piping would be directed horizontally and downward to sweep across the concrete slabs. The spray jets at the fish screens would be directed radially outward from the bases of the screens. Although it is expected that minimum velocities from the fish screen intake pipes would keep much of the sediment in suspension, the sediment control system would induce scouring of settled sediment to resuspend fine sediment to be pumped out of the wet well and into the main canal or jet accumulated sediment from around the base of the cone screens back out to the river. Like the fish screen cleaning system, the sediment control system would operate on a user-defined cleaning cycle time. A means to backflush the pump sump and screens using water from the Main Canal, as is done with the existing pump station, would also be a part of the system.

The fish screens would be self-cleaning (e.g., equipped with automatic rotating brushes to keep the screen slots clear of debris and sediment); however, routine inspection and maintenance in accordance with the manufacturer's recommendations would be necessary to ensure that all screens and associated cleaning systems are functioning properly. The brush-cleaning system would ensure that the screen surfaces remain free of debris and fouling organisms and therefore maintain compliance with State and federal fish-protection criteria. A water jetting sediment control system would function to resuspend sediment

around the intakes and screens and allow it to move downstream with the river flow. Maintenance actions may involve the periodic removal of excess accumulated sediment, vegetation, or other debris around the fish screens to ensure that the system operates at its design capacity and that fish passage hydraulic criteria are being achieved. The intake structure would also support a debris boom which would serve to deflect large woody debris from entering the area of the fish screens.

Although the fish screens would exclude a large percentage of bed sediments, some suspended sediment is anticipated to pass through the screens during pumping and enter the wet well. The enclosed wet well would prevent fish, large debris, and coarse sand (i.e., sediment size larger than the fish screen slot of 1.75 millimeters) from entering the wet well. It is expected that inflows from the fish screen intake pipes and sediment control system would adequately induce mixing to keep fine sediment in suspension. Sediment in suspension would be pumped out of the wet well and into the canal, effectively minimizing sediment accumulation within the wet well. The wet well would be equipped with a hatch to provide access for a diver and vacuum truck (or equivalent specialized machinery) to perform maintenance, as necessary. The wet well would also feature an isolation slide gate on each intake pipe to prevent river water from entering the area during maintenance.

Sediment and debris removal would generally require workers to access the Proposed Project site via the existing roadway network. Depending on whether the sediment needs to be removed, sediment may be hauled in trucks to the spoils sites; placed on access roads, toe roads, private property, or agricultural lands with appropriate approvals; or disked into the ground or road surface once dry. A water truck may be used to minimize dust during sediment removal and grading or disking, if needed. Scrapers, bulldozers, backhoes, loaders, graders, excavators, skid-steers, pickup trucks, hand tools, or other appropriate equipment would typically be used to remove sediment.

Frequency and Timing

Sediment and debris removal activities would be conducted as needed, between July 15 and September 30 (i.e., the in-water work window per the NMFS Restoration Biological Opinion for the Feather River). However, the frequency may vary based on (1) the type of water year (e.g., very dry or very wet), (2) the rate at which sediment and debris accumulate at the site, and (3) the effects of the magnitude of sediment and debris accumulation on conveyance capacity, energy dissipation, and fish passage conditions. As with current conditions, emergency repairs may be necessary after major storms, although these occurrences are expected to be rare.

Work Area

The annual area of work for sediment and debris removal activities for the Proposed Project would be, at most, equivalent to the Project limit shown in Figure 2-4.

Equipment

Typical maintenance would likely require the use of one or more light-duty trucks, a vacuum truck (or equivalent specialized machinery), excavators, loaders, dump trucks, graders, backhoes, skid-steers, bulldozers, or chain saws for the removal of sediment and/or large wood debris. Should a pump or fish screen need to be removed for repair or replacement, a crane and larger flatbed hauling truck would be used.

2.5 Anticipated Approvals and Permits

Table 2-5 identifies the anticipated regulatory approvals, permits, and consultations that may be needed for the Proposed Project. These potential permitting requirements are preliminary and may change during pre-application coordination with the regulatory agencies or through design of the Proposed Project.

TABLE 2-5
ANTICIPATED REGULATORY REQUIREMENTS

Agency	Governing Regulation	Potential Requirement
Federal		
U.S. Army Corps of Engineers	Clean Water Act Section 404, Rivers and Harbors Act Section 10; Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (Section 408)	Individual permit Section 408 permission
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Fish and Wildlife Coordination Act, Migratory Bird Treaty Act	FESA Section 7 consultation
National Marine Fisheries Service	Federal Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act	FESA Section 7 and Magnuson-Stevens Fishery Conservation and Management Act consultation
State		
California Department of Fish and Wildlife	Fish and Game Code Section 1602	Lake and Streambed Alteration Agreement
	California Endangered Species Act, Fish and Game Code Section 2081	California Endangered Species Act incidental take permit
State Water Resources Control Board	National Pollutant Discharge Elimination System	Stormwater pollution prevention plan for construction activities
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401; Porter-Cologne Water Quality Act	Water quality certification/waste discharge requirements
State Historic Preservation Office	Section 106 of the National Historic Preservation Act	Federal undertaking (i.e., permit or funding)
State Lands Commission	Public Resources Code Section 6327	Permit for the use and occupancy of state lands
Central Valley Flood Protection Board	California Code of Regulations, Title 23, Division 1, Article 3, Section 6	Encroachment permit
Local/Regional		
Levee District No. 9	California Code of Regulations, Title 23, Division 1, Article 3, Section 7	Local endorsement for Central Valley Flood Protection Board encroachment permit
Sutter Extension Water District	Public Resources Code Section 21069	CEQA responsible agency
Sutter County		Encroachment/grading permit for SEWD work within Sutter County
Yuba County		Encroachment/grading permit for SEWD work within Yuba County

Notes: FESA = federal Endangered Species Act; SEWD = Sutter Extension Water District; USC = United States Code
Source: Data compiled by Environmental Science Associates in 2025

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CHAPTER 3
Environmental Setting, Impacts, and Mitigation Measures

This chapter provides a definition of key terms and information on section format, describes the approach to the impact analysis, and presents a summary of the resource areas for which potential impacts of the Sunset Weir and Pumps Fish Passage Project (Proposed Project) are adequately addressed in the certified Statewide Restoration General Order (SRGO, or Order) Final Program Environmental Impact Report (EIR) and no further analysis is required. This chapter then provides an analysis of resource area topics requiring additional analysis under the California Environmental Quality Act (CEQA) beyond the analysis in the SRGO Final Program EIR.

3.1 Impact Analysis Key Terms

This draft supplemental environmental impact report (Draft SEIR) uses the following key terms as defined below:

- **Thresholds of Significance:** These thresholds are the set of criteria used to determine the level or "threshold" at which an impact would be considered significant. The thresholds of significance used in the SRGO Final Program EIR and in this Draft SEIR fall into the following categories:
  - Discussed in Appendix G of the *Guidelines for Implementation of the California Environmental Quality Act* (CEQA Guidelines).
  - Based on factual or scientific information.
  - Based on regulatory standards of federal, State, and local agencies.
  - Adopted by the State Water Resources Control Board (State Water Board).

  In determining the level of significance, the analysis assumes that the Proposed Project would comply with relevant federal, State, and local regulations.
- **No Impact:** An impact conclusion would be "no impact" when there is no reasonably foreseeable situation in which the Proposed Project would result in a direct or indirect impact relative to a particular threshold of significance.
- **Less-than-Significant Impact:** An impact is considered less than significant when it does not reach the threshold of significance and would therefore cause no substantial adverse change in the physical environment. No mitigation is required for less-than-significant impacts.
- **Less than Significant with Implementation of General Protection Measures or Species Protection Measures:** An impact is considered "less than significant with implementation of general

protection measures" or "less than significant with implementation of species protection measures" when incorporation of general protection measures and species protection measures from the SRGO Final Program EIR would reduce the magnitude of a potential impact to less than significant (without the incorporation of mitigation measures).

- **Less than Significant with Implementation of Mitigation Measures:** An impact is considered "less than significant with implementation of mitigation measures" when mitigation measures from the SRGO Final Programmatic EIR are required to reduce the magnitude of a potential impact to a less-than-significant level.
- **Significant Impact:** An impact is considered significant if it would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by evaluating the effects of the Proposed Project in the context of specified thresholds of significance. Mitigation measures and/or project alternatives are identified to reduce these effects on the environment where feasible.
- **Significant and Unavoidable Impact:** An impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level. A statement of overriding considerations must be adopted if impacts cannot be mitigated to a less-than-significant level.
- **General Protection Measures** (Appendix E to the SRGO Final Program EIR): These are the best management practices developed to support avoidance and/or minimization of effects on all covered species and their habitats and other resource areas (e.g., air quality, hazards and hazardous materials, geology and soils). These measures are designed to be applied, as appropriate, based upon the type of restoration project being undertaken and the specific tools being used to accomplish the restoration project.
- **Species Protection Measures** (Appendix F to the SRGO Final Program EIR): These are avoidance and/or minimization measures developed specifically to address individual covered species or covered species guilds, based upon unique life history and habitat requirements. Applicable species protection measures are to be implemented in addition to applicable general protection measures, described above, when suitable habitat exists within the currently occupied range of the species and/or a species is determined to be present.
- **Mitigation Measures:** The CEQA Guidelines (Section 15370) define "mitigation" as all of the following:
  - Avoiding the impact altogether by not taking a certain action or parts of an action.
  - Minimizing impacts by limiting the degree or magnitude of the action and its implementation (Section 15370[b]).
  - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
  - Reducing or eliminating the impact over time by conducting preservation and maintenance operations during the life of the action.
  - Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of resources in the form of conservation easements.

3.2 Approach to Evaluate Impacts of the Proposed Project

As stated in Section 1.2, "Type of Environmental Impact Report," this Draft SEIR supplements the previously certified SRGO Final Program EIR (State Clearinghouse No. 2019100230) and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This Draft SEIR provides additional information needed to make the SRGO Final Program EIR, as supplemented, adequate for the Proposed Project. Consistent with CEQA Guidelines Section 15163, this Draft SEIR contains only the information needed to analyze the Proposed Project, including changed circumstances and new information requiring additional environmental review. Where information and analysis provided in the SRGO Final Program EIR is applicable to the Proposed Project, it is summarized and/or incorporated by reference.

3.2.1 Explanation of Baseline for this Draft SEIR

The primary basis for the evaluation of baseline conditions for this Draft SEIR refers to the physical environmental conditions as they existed at the time of publication of the Notice of Preparation, or August 1, 2024, per CEQA Guidelines Section 15125(a)(1). The environmental baseline conditions are generally the same as the current existing on-the-ground conditions, with the exception of the left bank stabilization area where erosion is ongoing.

3.2.2 Resource Section Format

This chapter of the Draft SEIR presents the environmental setting; regulatory setting; significant effects on the environment ("impacts"); and general protection measures, species protection measures, and mitigation measures, as applicable, for each of the resource topics discussed in detail in Sections 3.4 through 3.14, listed below:

- 3.4 Agriculture
- 3.5 Air Quality and Greenhouse Gas Emissions
- 3.6 Biological Resources—Terrestrial
- 3.7 Biological Resources—Aquatic
- 3.8 Cultural Resources
- 3.9 Energy
- 3.10 Hazards and Hazardous Materials
- 3.11 Hydrology and Water Quality
- 3.12 Recreation
- 3.13 Tribal Cultural Resources
- 3.14 Utilities and Service Systems

For definitions of general protection measures, species protection measures, and mitigation measures, see Section 3.1, "Impact Analysis Key Terms." The cumulative impacts for each resource topic are analyzed

in Chapter 4, "Cumulative Impact Analysis," and comparative impacts of a reasonable range of alternatives to the Proposed Project are discussed in Chapter 5, "Alternatives."

Preceding each impact/mitigation measure discussion is a summary table that lists three types of impacts identified and the significance conclusions with implementation of general and species protection measures and/or mitigation measures. Mirroring the general format of the SRGO Final Program EIR, the impact discussions are organized as follows:

1. Each discussion begins with an impact statement and analysis for two types of impacts:
    a. *Construction-related impacts:* These are impacts of preconstruction (e.g., site preparation, haul route development) and earthmoving activities. Construction-related impacts are often temporary.
    b. *Effects of operations and maintenance activities:* These are impacts related to ongoing operations such as pump station and fish screen maintenance. These types of ongoing routine activities may be of short duration but are usually reoccurring.
2. The discussion identifies the activities evaluated in the SRGO Final Program EIR related to each impact category, as well as any general or species protection measures and/or mitigation measures that were applied. The impact conclusion from the SRGO Final Program EIR is provided before and after the implementation of general and species protection measures and mitigation measures.
3. A Proposed Project–specific discussion of impacts is provided that addresses any proposed modifications, changed circumstances, and/or new information not described in the SRGO Final Program EIR.
4. General protection measures and species protection measures from the SRGO Final Program EIR applicable to the Proposed Project are identified and presented along with their effectiveness in reducing the magnitude of the impact.
5. If mitigation was needed to further reduce the magnitude of an impact, the applicable mitigation measures from the SRGO Final Program EIR are identified and a significance conclusion is provided.

The impact analysis for each resource area has determined the nature and significance of each impact before and after the incorporation of appropriate general protection measures and species protection measures identified in the SRGO Final Program EIR. For the purposes of this Draft SEIR, general protection measures and species protection measures are intended to be implemented and enforced in the same way as mitigation measures consistent with Section 15126.4 of the CEQA Guidelines.

If the analysis has determined that incorporating one or more general protection measures and/or species protection measures would reasonably mitigate an impact, then the impact conclusion is less than significant (with implementation of general protection measures). If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then the impact conclusion is potentially significant, and mitigation measures from the SRGO Final Program EIR have been incorporated to reduce the magnitude of the potentially significant impact to a less-than-significant level. See **Appendix B** for a summary of general protection measures, species protection measures, and mitigation measures from the SRGO Final Program EIR that are applicable to the Proposed Project, as identified in Sections 3.4 through 3.14.

3.3 Environmental Issues Not Requiring Further Analysis

3.3.1 Aesthetics

Aesthetic resources in the area of the Proposed Project site include the Feather River and riparian forest. River and water infrastructure facilities in the vicinity of the site include the Live Oak Recreational Park Boat Launch, Sutter Extension Water District (SEWD) Main Canal, and the SEWD Sunset Pump Station and associated infrastructure. Adjacent land uses include agriculture and associated support infrastructure. The topography of the Proposed Project site and vicinity is relatively flat. The Proposed Project site (not including the staging areas, SEWD maintenance yard, or access routes) is below the grade of the surrounding levees and is partially obscured by the adjacent riparian vegetation and agricultural row crops; therefore, visibility of the Proposed Project site from county roads is limited. Potential viewer groups include members of the public navigating the Feather River by boat and other recreationists.

According to the California Department of Transportation Map of Designated Scenic Routes, there are no officially designated State scenic highways in Sutter County and only one designated State scenic highway exists in Yuba County. This scenic designated highway is a segment of State Route 49 located in Yuba County, approximately 31 miles northeast of the Proposed Project site (California Department of Transportation 2025). Policy ER 7.1 of the Sutter County 2030 General Plan designates the Sutter Buttes and the Sacramento, Feather, and Bear rivers as scenic resources (Sutter County 2011). The Yuba County 2030 General Plan designates the Yuba, Bear, and Fether rivers and State Route 49 as important visual resources in the county. The Visual Resources section also discusses the importance of the Sutter Buttes, the Sierra Nevada foothills, and agricultural rice fields to the visual character of the valley floor region of the county (Yuba County 2011a).

The analysis in the SRGO Final Program EIR found that, while construction activities could cause temporary changes in local visual conditions or scenic vistas, these elements would be removed after construction and no permanent change would occur and concluded that aesthetic impacts would be less than significant. As part of the State Water Board's or a regional water quality control board's (RWQCB) issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures GPM-3, GPM-11, GPM-14, GPM-15, VHDR-1, VHDR-3, VHDR-4, and VHDR-5 would be required to further reduce impacts on visual resources.

The SRGO Final Program EIR also considered the effects of constructed restoration projects, such as routine operations and maintenance activities, on local visual conditions and scenic vistas. The SRGO Final Program EIR found that even though restoration projects permitted under the SRGO are expected to be beneficial or neutral relative to aesthetic resources, by restoring natural character to disturbed sites, they could permanently alter the existing visual landscape. Therefore, the SRGO Final Program EIR applied General Protection Measure VHDR-5. Even with implementation of General Protection Measure VHDR-5, the impact was found to be potentially significant, so SRGO Mitigation Measure AES-1 was applied to reduce the impact to less than significant.

Lastly, the SRGO Final Program EIR found that restoration projects permitted under the SRGO could result in potentially significant impacts related to new sources of light or glare from reflective construction materials or nighttime flood lighting during construction. General Protection Measure GPM-3 was applied to further reduce impacts on visual resources. Even with implementation of General Protection

Measure GPM-3, the impact was found to be potentially significant, so Mitigation Measure AES-2 was applied to reduce the impact to less than significant.

Similar to restoration projects analyzed under the SRGO Final Program EIR, the construction sites for the Proposed Project could be visible from nearby waterways, roads, and recreational areas. Views of the construction sites and activities could temporarily adversely affect the visual qualities and character of the surrounding landscape over the course of two construction seasons. These elements would be removed after construction; therefore, their presence would not cause permanent changes to local visual conditions. The Proposed Project would implement General Protection Measures GPM-3, GPM-11, GPM-14, GPM-15, VHDR-1, VHDR-3, VHDR-4, and VHDR-5, consistent with the SRGO Final Program EIR, to reduce impacts on aesthetics from construction activities (see Appendix B).

Relative to constructed restoration elements and operations and maintenance, the Proposed Project would remove the Sunset Weir, replace and upgrade the Sunset Pump Station and rehabilitate the existing pump discharge pipelines, and stabilize the left bank downstream of the weir. These elements would be consistent with existing conditions and the Proposed Project would implement Final SRGO PEIR Mitigation Measure AES-1. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

Construction would typically occur between 7 a.m. and 7 p.m.; however, times may be extended into the night at key times during the construction phase, as needed, which may necessitate temporary lighting. Security measures during construction would include nighttime lighting for areas within the site (e.g., staging locations with equipment or materials) and SRGO Mitigation Measure AES-2 would apply to the Proposed Project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

Consistent with restoration projects permitted under the SRGO, the Proposed Project is not anticipated to require the use of highly reflective materials. Routine operations and maintenance activities would introduce workers and vehicles into the Proposed Project site, but nighttime lighting and sources of light and glare would not change compared to existing conditions.

With adherence to all applicable general protection measures and implementation of SRGO Mitigation Measures AES-1 and AES-2, the Proposed Project would be consistent with the restoration projects analyzed under the SRGO and would have less-than-significant aesthetics impacts. Therefore, the Proposed Project is consistent with and would not result in new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to aesthetics.

3.3.2 Forestry Resources

The analysis in the SRGO Final Program EIR determined that impacts on farmland and zoning for forestland, timberland, or timberland zoned Timberland or the loss of forestland would be less than significant with general protection measures. The analysis determined that restoration projects under the Order would largely occur in existing water channels and would not extend to forestland or timberland. Additionally, some projects—including establishing, restoring, and enhancing stream and riparian habitats—would reduce soil erosion from associated activities such as bank stabilization and erosion

control work. Therefore, these actions would be beneficial for existing zoning for forestland, timberland, or timberland zoned Timberland Production. As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures GPM-8, GPM-10, GPM-11, GPM-12, GPM-15, IWW-14, VHDR-1 through VHDR-6 would be required to reduce impacts on forestry resources.

The Proposed Project would not result in the loss of forestland from conversion of land to non-forest use. There would be no impact on zoning for forestland, timberland, or timberland zoned Timberland Production and the Proposed Project would not result in the loss of forestland. Therefore, General Protection Measures GPM-8, GPM-10, GPM-11, GPM-12, GPM-15, IWW-14, VHDR-1 through VHDR-6 would not apply.

The Proposed Project would be consistent with the restoration projects analyzed under the SRGO Final Program EIR. Therefore, the Proposed Project is consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to forestry and forestry resources.

3.3.3 Geology and Soils

There are two areas with identified faults in Sutter County: a series of small Quaternary faults in the northern section of the county within the Sutter Buttes, and the pre-Quaternary fault that runs from northwest to southeast through the county (Sutter County 2010a). There are also two areas with identified faults in Yuba County: the Swain Ravine Fault Zone and the Spenceville Fault, both of which run northwest to southeast through the county (Yuba County 2011b). The closest fault to the Proposed Project site is located in Sutter County and is approximately 8 miles to the southwest near the Sutter Buttes.

The Proposed Project site also has low to moderate potential for ground shaking (California Geological Survey 2016) and is not located in an Alquist-Priolo Earthquake Zone of Required Investigation (California Geological Survey 2025a). The clean sandy layers paralleling the Feather River would potentially be at a higher risk if major seismic activity were to occur; however, liquefaction during an earthquake requires strong shaking, which is not likely to occur in the area due to the relatively low occurrence of seismic activity. With the exception of the Sutter Buttes, Sutter County is within a landslide-free zone because of the generally flat topography (Sutter County 2010a). Within Yuba County, landslides typically occur in the central and eastern portions of the county, where topographic relief and slopes increase as one moves east toward the Sierra Nevada foothills. The area of the Proposed Project site is located in the relatively flat western portions of the county where there is little likelihood of landslides occurring (Yuba County 2011b).

The Proposed Project site is underlain by several soil groups (Natural Resources Conservation Service 2025):

- *Sunset Pump Station, the Sunset Weir, and the left bank stabilization area:* 118 Columbia fine sandy loam, channeled, 0–2 percent slopes; 138 Columbia fine sandy loam, 0–1 percent slopes, occasionally flooded; and 147 Feather silt loam, 0–2 percent slopes, occasionally flooded.
- *Alternative staging area locations:* 138 Columbia fine sandy loam, 0–1 percent slopes, occasionally flooded; 141 Conejo loam, 0–1 percent slopes, MRLA 17; 147 Feather silt loam, 0–2 percent slopes,

occasionally flooded; 163 Holillipah loamy sand, 0–1 percent slopes; and 182 Kilaga clay loam, 0–1 percent slopes.

All of these soil types have a low shrink-swell potential except 141 Conejo loam and 147 Feather silt loam, which have a low to moderate shrink-swell potential, and 182 Kilaga clay loam, which has a moderate to high shrink-swell potential (Natural Resources Conservation Service 1998a, 1998b).

The Proposed Project site is underlain by Modesto Formation (alluvium); one site near Yuba City within this formation has yielded a Pleistocene-age bison. The occurrence of recorded vertebrate fossil remains in sediments referable to the Modesto Formation elsewhere in the Central Valley suggests the potential for uncovering additional similar fossil remains during construction-related earthmoving activities (Sutter County 2010a). Further, the Yuba County General Plan EIR identifies the Modesto Formation as a paleontologically sensitive rock type with the potential to yield Pleistocene-aged vertebrate fossils (Yuba County 2011b).

The analysis in the SRGO Final Program EIR determined that impacts related to geologic hazards would be less than significant with mitigation, soils impacts would be less than significant with general protection measures, and paleontological impacts would be significant and unavoidable. The analysis in the SRGO Final Program EIR concluded that because the specific locations and scale of possible future restoration projects were not yet determined, the risk of a fault rupture could not be determined. Factors needed to identify specific impacts include the project's design, its location relative to underlying soil and geotechnical conditions, and proximity to known earthquake faults. As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures GPM-15, WQHM-1 through WQHM-4, VHDR-1, and VHDR-3 through VHDR-5 would be required to reduce impacts on geology and soils. SRGO Mitigation Measures GEO-1 through GEO-10 were also applied when applicable to a given project.

The analysis under the SRGO Final Program EIR determined that restoration projects covered under the Order would have a less-than-significant impact with general protection measures related to erosion and the loss of topsoil. The Proposed Project would implement General Protection Measures GPM-15, WQHM-1 through WQHM-4, VHDR-1, and VHDR-3 through VHDR-5, consistent with the SRGO Final Program EIR (see Appendix B).

The Proposed Project is not located in an Alquist-Priolo Earthquake Zone of Required Investigation or in a liquefaction zone or landslide zone. The Proposed Project also would not introduce any additional habitable structures onto the Proposed Project site. The Proposed Project performed a preliminary geotechnical investigation of existing geotechnical conditions during project design. Additional geotechnical investigation will be performed to further inform the project design in accordance with SRGO Mitigation Measures GEO-1 and GEO-3. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.) SRGO Mitigation Measure GEO-4 related to building requirements would also apply to the Proposed Project. Because the Proposed Project is not located in an Alquist-Priolo Earthquake Zone of Required Investigation, Final SRGO Program EIR Mitigation Measure GEO-2 would not apply.

As analyzed under the SRGO Final Program EIR, construction of restoration projects, constructed facilities (natural or artificial infrastructure), and operations and maintenance of those facilities permitted

under the Order could directly or indirectly expose people or structures to unstable soil conditions, including landslides, expansive soils, subsidence, high organic matter soils, or increased runoff. The Proposed Project site is not located on hillsides or unstable geologic units, and the Proposed Project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The Proposed Project in not located on expansive soils that would create substantial direct or indirect risks to life or property; therefore, SRGO Mitigation Measure GEO-5 would not apply, nor would it include septic tanks or alternative wastewater systems. The Proposed Project would adhere to all applicable design guidelines under the SRGO Final Program EIR and to all geotechnical recommendations. The Proposed Project also would adhere to SRGO Mitigation Measures GEO-6 through GEO-8. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.) Additional analysis of the Proposed Project's impact on erosion at the Proposed Project site is provided in Section 3.11, "Hydrology and Water Quality."

Similar to restoration projects analyzed under the SRGO Final Program EIR, the Proposed Project could potentially have a significant impact on paleontological resources. The potential exists for uncovering fossil remains during construction-related earthmoving activities; however, construction activities would occur in previously disturbed areas where any resources would have been recovered or destroyed during previous construction. Nevertheless, the Proposed Project would implement SRGO Mitigation Measures GEO-9 and GEO-10. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

With adherence to the applicable general protection measures and implementation of SRGO Mitigation Measures GEO-1 and GEO-3 through GEO-10, the Proposed Project would be consistent with the restoration projects analyzed under the SRGO Final Program EIR. Therefore, the Proposed Project is consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to geology and soils.

3.3.4 Land Use/Planning

The Proposed Project site is located within Sutter and Yuba counties. The assessor's parcel numbers that make up the Proposed Project site include 09-305-002, 09-305-004, 10-045-009, and 005-010-017 at the Sunset Pump Station, weir, and left bank stabilization area; 005-010-017, 005-010-054, and 005-160-050 at the alternative staging area sites; and 13-280-054, 13-280-055, and 13-280-108 at the SEWD maintenance yard (4525 Franklin Road, Yuba City; potential spoils site). The Proposed Project site includes land designated as Open Space and Agriculture in the Sutter County General Plan and as Agriculture in the Yuba County General Plan. The Proposed Project site is zoned in both counties for agricultural purposes (Sutter County 2025; Yuba County 2025).

The analysis in the SRGO Final Program EIR determined that impacts on land use and planning would be less than significant during construction and significant and unavoidable during operations and maintenance. The SRGO Final Program EIR did not include mitigation measures or general protection measures applicable to this resource area.

The Proposed Project would not conflict with a land use plan, policy, or regulation adopted to avoid or mitigate environmental effects, nor would the Proposed Project physically divide an established

community. This conclusion has been reached because the Proposed Project is a restoration project that would restore natural fish passage conditions for the Feather River channel in the area of the Sunset Weir (and includes a pump station replacement and upgrade and new fish screens, rehabilitation of existing pump discharge pipelines, and stabilization of the left bank downstream of the weir) that are compatible with the existing land uses. Any potential impacts regarding changes in land use are discussed primarily in Section 3.4, "Agricultural Resources." The Proposed Project is therefore consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR and the SRGO Program EIR adequately addresses potential impacts related to land use.

3.3.5 Mineral Resources

According to the California Geological Survey, one classification study evaluating mineral resources or mineral resources mines has been conducted at or near the Proposed Project site. The Proposed Project site is within lands classified by the California Geological Survey as Mineral Resource Zone (MRZ) 1 and MRZ-3 (California Geological Survey 2018, 2025b), which demarcate lands that have little likelihood or undetermined mineral resource significance.

The analysis in the SRGO Final Program EIR determined that impacts on mineral resources would be less than significant with mitigation during the construction, operation, and maintenance of restoration projects covered under the Order. As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with SRGO Mitigation Measures MIN-1 and MIN-2 would be required when applicable.

The Proposed Project area does not contain known mineral resources of State or local importance; therefore, the Proposed Project would not result in the loss of availability of or loss of access to known or locally important mineral resources, and SRGO Mitigation Measures MIN-1 and MIN-2 would not apply.

Because the Proposed Project would not result in the loss of any known mineral, the Proposed Project would have no impact on mineral resources. The Proposed Project is therefore consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to mineral resources.

3.3.6 Noise

Land uses adjacent to the Proposed Project site consist primarily of agriculture and associated support infrastructure and open space. Sensitive receptors for noise and groundborne noise and vibration in the area of the Proposed Project site include five rural residences within a 0.25-mile vicinity of the main site for the Sunset Weir removal, pump station replacement and upgrade, and left bank repair activities associated with the Proposed Project. SEWD also has a residence near the pump station that is used by the employee responsible for operating and maintaining the pump station and property. The nearest residential community to the Proposed Project site is the community of Live Oak, approximately 1.7 miles to the northwest. The Proposed Project site is not located within 2 miles of a private airstrip or public use airport.

The analysis in the SRGO Final Program EIR found that some construction activities could result in temporary increases in ambient noise levels or groundborne vibration, given that the specific locations of restoration projects that would be permitted under the Order in relation to noise-sensitive receptors were yet to be determined, and these impacts were identified as significant and unavoidable during construction. Noise impacts during operations and maintenance and for projects in the vicinity of an airstrip, airport land use plan, or within 2 miles of an airport were determined to be less than significant with mitigation. As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures GPM-2, GPM-3, GPM-6, and IWW-9 would be required to reduce noise impacts. SRGO Mitigation Measures NOISE-1 through NOISE-3 were applied when applicable to a given project.

The Proposed Project would result in a temporary increase in ambient noise levels during construction; however, the Proposed Project would not result in permanent increases in ambient noise levels in excess of standards established in applicable plans and ordinances. Construction activities for the Proposed Project would require the use of equipment that would temporarily generate noise. Construction noise levels at and near the Proposed Project site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment used. Construction-related worker trips and truck trips to and from the areas would temporarily increase ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. Groundborne noise and vibration would be generated by construction equipment used at the Proposed Project site but would attenuate rapidly with distance. Because the Proposed Project would occur in the vicinity of rural residences and may require nighttime construction, the Proposed Project would implement General Protection Measures GPM-2, GPM-3, GPM-6, and IWW-9 and SRGO Mitigation Measure NOISE-1, consistent with the SRGO Final Program EIR, to reduce noise impacts. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

Project operation and maintenance activities would be similar to activities occurring under existing conditions. Additionally, the proposed pumps would be more efficient than the existing pumps and would be properly mounted and insulated, minimizing operational noise. Because there would be no significant change in operational noise associated with the Proposed Project and because the Proposed Project site is not located within 2 miles of a private airstrip or public use airport, SRGO Mitigation Measures NOISE-2 and NOISE-3 would not apply.

With adherence to all applicable general protection measures and implementation of SRGO Mitigation Measure NOISE-1, the Proposed Project would be consistent with the restoration projects analyzed under the SRGO Final Program EIR. Therefore, the Proposed Project is consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to noise.

3.3.7 Population/Housing

There are five rural residences located within 0.25 mile of the main site for the Sunset Weir removal, pump station replacement and upgrade, and left bank repair activities associated with the Proposed Project. SEWD also has a residence near the pump station that is used by the employee responsible for operating and maintaining the pump station and property.

The analysis in the SRGO Final Program EIR determined that impacts on population and housing would be less than significant during the construction, operation, and maintenance of restoration projects covered under the Order. The SRGO Final Program EIR did not include mitigation measures or general protection measures that are applicable to this resource area.

Consistent with potential restoration projects analyzed under the SRGO Final Program EIR, the Proposed Project would not construct any housing or other infrastructure that would generate or impede population growth. Construction activities associated with the Proposed Project could result in a temporary increase in the need for construction crews (up to approximately 65 workers). The number of workers needed for the Proposed Project would be a small fraction of the overall population of Sutter and Yuba counties and would likely be sourced from the local labor pool. The increase in the workforce associated with the construction of the Proposed Project would be negligible compared to the overall population of the counties, and therefore would not result in a need for housing over current conditions. Routine maintenance activities would not result in a significant change in workforce over current conditions.

The Proposed Project would be consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to population and housing.

3.3.8 Public Services

There are no schools or parks near the Proposed Project site; the closest school is Encinal Elementary School, approximately 1.9 miles to the southwest, and the closest park is the Live Oak Recreational Park and Boat Launch, approximately 1.9 miles north. There are no libraries in the vicinity of the Proposed Project site; the closest library is the Sutter County Library Barber Branch in Live Oak, approximately 2.6 miles to the northwest. Fire protection services are provided to the Proposed Project site by the District 10–Hallwood Community Service District in Yuba County and by the Sutter County Fire Department in Sutter County. Law enforcement services are provided to the Proposed Project site by the Yuba County Sheriff's Department, Sutter County Sheriff's Department, and California Highway Patrol (Yuba County 2011b; Sutter County 2010b).

The analysis in the SRGO Final Program EIR determined that impacts on public services would be less than significant during construction, operation, and maintenance of restoration projects covered under the Order. The SRGO Final Program EIR did not include mitigation measures or general protection measures that are applicable to this resource area.

The Proposed Project does not include the construction of new or modified fire or police protection facilities, schools, or other public facilities and would not increase population or add new public service demands. Construction activities associated with the Proposed Project could temporarily increase response times for fire protection, law enforcement, and emergency medical services because the transportation of construction materials could increase traffic levels compared to existing conditions. However, this would not be a significant impact because the Proposed Project would not result in road closures or lane blockages and roads would remain open during construction. Routine maintenance activities would not result in substantially adverse physical traffic impacts that would lead to increased response times for fire protection, police protection, schools, and other public facilities. Therefore,

operations and maintenance activities would not result in substantial adverse physical impacts associated with construction of new or modified fire or police protection facilities, schools, or other public facilities.

No impacts on public services would result from the Proposed Project. The Proposed Project is therefore consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to public services.

3.3.9 Transportation

Workers would access the portion of the Proposed Project site located along the left (east) bank of the Feather River via State Route 70 and existing unnamed dirt- or gravel-surfaced agricultural roads. They would access the portion of the site located along the right (west) bank of the Feather River via State Route 99 and the west levee of the Feather River. Workers would access upstream portions of the Proposed Project site (i.e., alternative staging area sites) via State Route 70 or State Route 99 to existing local roads and to existing unnamed dirt- or gravel-surfaced agricultural roads. Most of the traffic would be generated by trucks and other earthmoving and hauling equipment during construction. The temporary access routes to these locations are shown in Figure 2-5.

The analysis in the SRGO Final Program EIR determined that impacts related to transportation would be significant and unavoidable during construction and less than significant with mitigation during operations and maintenance. The analysis in the SRGO Final Program EIR concluded that construction activities for future restoration projects that would be permitted under the Order could result in temporary partial or full road closures. As a result, these projects could conflict with a plan, ordinance, or policy associated with the circulation system, or could affect the use of federal, State, and local highways and bridges and transit, roadways, bicycle, and pedestrian facilities. The SRGO Final Program EIR also concluded that operations and maintenance of facilities for future restoration projects that would be permitted under the Order are not likely to substantially increase traffic or cause circulation problems associated with transit, roadways, bicycle, and pedestrian facilities.

As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures GPM-6, GPM-10, and WQHM-1 would be required to reduce impacts related to hazards. Even with implementation of the general protection measures, the impacts were found to be potentially significant, so mitigation was applied to reduce impacts to less than significant. SRGO Mitigation Measures TRA-1 through TRA-5 were applied when applicable to a given project.

The Proposed Project is anticipated to require up to 65 workers for the removal of the weir and the left bank stabilization work. Assuming that workers travel from nearby cities, Yuba City and Live Oak, the workers are anticipated to travel between 6 and 20 miles each day. Ten dump trucks transporting construction materials to and from the Proposed Project site are estimated to travel approximately 60 miles up to four times daily for up to 57 days for weir removal and left bank stabilization.

Worker trips and heavy equipment entering and exiting the Proposed Project site could temporarily disrupt traffic. The Proposed Project would not result in road closures or lane blockages that could reduce the number of travel lanes and require rerouting of traffic. Existing entrance roads would be used for all

ingress and egress by construction equipment; these areas would not result in inadequate emergency access. Construction equipment would remain on-site for the duration of construction, thereby limiting traffic nearby. Project construction would temporarily affect navigation in the Feather River, which could temporarily increase hazards due to a geometric design feature or incompatible use. Once construction is complete, only periodic operations and maintenance activities would use the access roads. To ensure that implementation of the Proposed Project would not conflict with a plan, ordinance, or policy addressing the circulation system, result in an amount and duration of vehicle use that would result in accelerated road deterioration or significant emissions, or substantially increase hazards due to a geometric design feature or incompatible use, the Proposed Project would implement General Protection Measures GPM-6, GPM-10, and WQHM-1, consistent with the SRGO Final Program EIR, to reduce transportation impacts from construction activities (see Appendix B).

The Proposed Project would develop and implement a construction traffic management plan, waterway traffic control plan, and a channel closure plan before the beginning of construction activities in accordance with SRGO Mitigation Measures TRA-1 through TRA-3. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.) The Proposed Project would also implement measures when feasible to reduce impacts on boat passage and transit facilities consistent with SRGO Mitigation Measure TRA-4. The Proposed Project would not affect trails or bicycle and pedestrian circulation; therefore, SRGO Mitigation Measure TRA-5 would not apply.

The SRGO Final Program EIR concluded that construction activities for future restoration projects that would be permitted under the Order could exceed the threshold of significance and conflict with CEQA Guidelines Section 15064.3(b). Equipment, materials, and workers would have to be transported to project construction sites. Larger projects located near water may use large barges to transport construction equipment and materials via waterways. However, the level of significance of impacts for automobile travel would depend on the locations and types of restoration projects permitted under the Order. Consistent with potential restoration projects analyzed under the SRGO Final Program EIR, the Proposed Project would also implement SRGO Mitigation Measure TRA-6. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

The SRGO Final Program EIR also concluded that operations of facilities for restoration projects that would be permitted under the Order are not likely to require a large amount of automobile travel. Therefore, this impact would be less than significant. With adherence to the above mitigation measure, the Proposed Project would reduce effects associated with increased vehicle miles traveled and would be consistent with the restoration projects analyzed under the SRGO Final Program EIR.

The SRGO Final Program EIR found that construction of restoration projects, constructed facilities (natural or artificial infrastructure), and operations and maintenance of those facilities permitted under the Order could affect transportation infrastructure such as roads, bridges, railroads, and navigable waterways. Therefore, impacts related to geometric design or incompatible use hazards would be potentially significant. Consistent with potential restoration projects analyzed under the SRGO Final Program EIR, the Proposed Project would also implement SRGO Mitigation Measures TRA-7 and TRA-8. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

With adherence to all applicable general protection measures and implementation of Final SRGO Program EIR Mitigation Measures TRA-1 through TRA-4 and TRA-6 through TRA-8, the Proposed Project would be consistent with the restoration projects analyzed under the Order and would have less-than-significant transportation impacts. Therefore, the Proposed Project is consistent with and would not result in a new or more severe potentially significant impact than identified in the SRGO Final Program EIR, and the SRGO Final Program EIR adequately addresses potential impacts related to transportation.

3.3.10 Wildfire

The Proposed Project site is located in a Local Responsibility Area with an unzoned fire hazard severity. The site is approximately 2.5 miles north of the closest zoned Local Responsibility Area and 8.9 miles west of the closest zoned State Responsibility Area, both having designations of moderate fire hazard severity (California Department of Forestry and Fire Protection 2025a, 2025b, 2024). The Proposed Project site is relatively flat and work areas would be located adjacent to and within the Feather River. The area surrounding the site is predominantly developed with agricultural lands.

The analysis in the SRGO Final Program EIR determined that impacts related to wildfire would be less than significant with mitigation during the construction, operation, and maintenance of restoration projects covered under the Order. As part of the State Water Board's or RWQCB's issuance of a Notice of Approval for a restoration project under the Order, compliance with General Protection Measures WQHM-3, WQHM-6, IWW-3, IWW-6, and VHDR-2 through VHDR-4 would be required to reduce impacts related to wildfire.

The analysis in the SRGO Final Program EIR found that some construction activities for restoration projects permitted under the Order could be located in areas with a High or Very High Fire Hazard Severity rating, given that the specific locations of restoration projects that would be permitted under the Order were yet to be determined, and these impacts were identified as potentially significant. SRGO Mitigation Measure FIRE-1 was applied when applicable to a given project to reduce this impact to less than significant.

The SRGO Final Program EIR also considered the effects of constructed restoration projects, such as routine operations and maintenance activities, on local wildfire conditions. The SRGO Final Program EIR found that impacts related to constructed facilities and operation and maintenance were potentially significant, as operations and maintenance of restoration projects permitted under the Order could occur in areas subject to the threat of wildfires. Therefore, the SRGO Final Program EIR applied SRGO Mitigation Measure FIRE-1 when applicable to a given project to reduce the impact to less than significant.

Lastly, the SRGO Final Program EIR found that restoration projects permitted under the Order could include grading and drainage changes and removal of nonnative vegetation, which could result in impacts related to post-fire slope instability. Plant roots stabilize the soil and aboveground plant parts slow the flow of water, allowing it to percolate into the soil. Removing plants during construction activities for restoration projects permitted under the Order could increase surface runoff. Therefore, the SRGO Final Program EIR applied General Protection Measures WQHM-3, WQHM-6, IWW-3, IWW-6, and VHDR-2, through VHDR-4. Even with implementation of the general protection measures, the impact was found to be potentially significant, so SRGO Mitigation Measure FIRE-1 was applied when applicable to a given project to reduce the impact to less than significant.

Because the Proposed Project site is not located in a High or Very High Fire Hazard Severity Zone, SRGO Mitigation Measure FIRE-1 would not apply. The Proposed Project would implement General Protection Measures WQHM-3, WQHM-6, IWW-3, IWW-6, and VHDR-2 through VHDR-4, consistent with the SRGO Final Program EIR, to reduce wildfire impacts from construction activities (see Appendix B).

The Proposed Project does not require infrastructure that may exacerbate fire risk and would not contribute substantially to wildfire risk in the area. The Proposed Project also would not include any changes to residential structures and would not expose people or structures to substantial post-fire risks such as downslope or downstream flooding.

With adherence to all applicable general protection measures, the Proposed Project would be consistent with the restoration projects analyzed under the SRGO Final Program EIR. Therefore, the Proposed Project is consistent with and would not result in a new or more severe potentially significant impact than identified in the Final SRGO Program EIR, and the Final SRGO Program EIR adequately addresses potential impacts related to wildfire risk.

3.3.11 Other CEQA Issues

Growth-Inducing Impacts

As stated in CEQA Guidelines Section 15126.2(e), a project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project involved construction of substantial new housing or commercial development, as this would directly result in a demand for new public services, facilities, or infrastructure. A project would have indirect (or secondary) growth inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); if it would involve a short or long-term construction effort with substantial employment opportunities; or if it would remove an obstacle to additional growth and development, such as removing a constraint or increasing the capacity of a required public service, such as increased water supply capacity.

The Final SRGO Program EIR examined potential for direct and indirect growth inducement resulting from covered restoration projects in Section 5.1, “Growth-Inducing Impacts.” It was determined that the SRGO would not induce direct or indirect growth because covered restoration projects would not require or cause construction of new housing or commercial or industrial development, would cause negligible temporary population increases, and would be consistent with local plans and guidelines. This impact was found to be less than significant.

As described in Chapter 2, “Project Description,” of this Draft SEIR, construction of the Proposed Project would require up to 65 construction workers for removal of the weir, pump station replacement and upgrade, and the left bank stabilization work. Work would be completed over up to three consecutive construction seasons. The number of workers needed for the Proposed Project would be a small fraction of the overall population of Sutter and Yuba counties and would likely be sourced from the local labor pool. The increase in the workforce associated with construction of the Proposed Project would be temporary and negligible compared to the overall population of Sutter and Yuba counties, and therefore would not result in a need for new housing or development of other services.

Long-term, the Proposed Project includes operation and maintenance of the Sunset Pump Station, fish screens, and their related appurtenances. The Proposed Project does not involve new land development or public services that would remove an impediment to new development (see Sections 3.3.4, "Land Use and Planning," and 3.3.8, "Public Services"). Ongoing agricultural operations (see Section 3.4, "Agriculture") and water management operations (see Section 3.11, "Hydrology and Water Quality," and Section 3.14, "Utilities and Service Systems") would be similar to those occurring under existing conditions, and additional maintenance activities associated with constructed facilities would be periodic and short term; therefore, these activities would not result in an increased need for permanent workers or additional housing.

The Proposed Project does not involve a short- or long-term construction effort that would establish permanent or substantial employment opportunities that would spur demand for new housing, development, or public services. The Proposed Project would not involve the removal of an impediment to growth, such as a change to water supply or installation of new public services beyond what exists under current conditions (see Section 3.3.8, "Public Services," and Section 3.14, "Utilities and Service Systems"). Long-term operations and maintenance of the constructed facilities would be periodic and short term, involving minimal workers, and would not require new housing or development. Impacts related to growth inducement would be less than significant.

The Proposed Project is therefore consistent with and would not result in new or more severe potentially significant impacts than identified in the Final SRGO Program EIR, and the Final SRGO Program EIR adequately addresses potential growth inducement.

Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(c) states that an EIR must describe the impacts identified as significant and unavoidable should a proposed project be implemented. Impacts are determined to be significant and unavoidable when either no mitigation or only partial mitigation is feasible to reduce impacts to less-than-significant levels. The California Department of Water Resources, as lead agency, will make the final determination of impact significance and of the feasibility of mitigation measures as part of the certification action. The environmental impacts that would result from implementation of the Proposed Project are presented throughout this chapter (Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures"). The Proposed Project would not result in any new significant and unavoidable impacts beyond those already identified in the Final SRGO Program EIR (see Final SRGO Program EIR Section 5.3).

Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2[d] requires an evaluation of the significant irreversible environmental changes that would be caused by a project if implemented, as described below:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

In general, the CEQA Guidelines refer to the need to evaluate and justify the consumption of nonrenewable resources and the extent to which a project would commit future generations to similar uses of nonrenewable resources. In addition, CEQA requires the evaluation of irreversible damage resulting from an environmental accident associated with a proposed project.

The Final SRGO Program EIR examined the potential for significant irreversible environmental changes resulting from covered restoration projects in Section 5.2, "Significant Irreversible Environmental Changes." It was determined that implementing restoration projects permitted under the SRGO could indirectly result in the commitment of nonrenewable natural resources used in the construction process and during operation, including gravel, petroleum products, steel, fossil fuels, and other materials. Projects would also result in the commitment of slowly renewable resources, such as wood products. Such use would be short term and would comply with energy standards, and therefore would not result in the unnecessary, inefficient, or wasteful use of resources. It was also found that construction and operation of restoration projects permitted under the SRGO have the potential to result in accidental release of hazardous materials that could cause irreversible damage.

The Proposed Project involves the removal of the Sunset Weir and the restoration of natural fish passage conditions for the Feather River channel in the area of the weir; replacement and upgrade of the Sunset Pump Station to operate at a lower surface water elevation and rehabilitation of existing pump discharge pipelines; installation and operation of new fish screens at the Sunset Pump Station; and left bank stabilization downstream of the weir. The duration and intensity of construction activities for the Proposed Project are in line with similar projects and up to 65 construction workers would be required over up to three consecutive construction seasons to perform anticipated construction activities.

Operations and maintenance required for the Proposed Project would include maintenance of the Sunset Pump Station and fish screens, such as removal of sediment and debris (e.g., large wood) that may accumulate near the Sunset Pump Station and fish screens; periodic removal of excess accumulated sediment, vegetation, or other debris around the fish screens; and removal of sediment accumulation within the wet well. Operations and maintenance activities would be consistent with those evaluated under the Final SRGO Program EIR, including activities such as periodic dredging of sediment from tidal channels and irrigation and drainage canals; mechanical or chemical weed control and control of invasive species; manual vegetation management (e.g., replanting, watering, mowing); and maintenance, cleaning, and/or repair of berms, equipment, and infrastructure. Operations and maintenance activities associated with the Proposed Project would require an ongoing commitment of nonrenewable resources, but the use would be similar to baseline conditions.

See Section 3.9, "Energy," for a discussion of potential Proposed Project impacts (from construction and operations and maintenance) related to the commitment of nonrenewable resources, which were determined to be less than significant. See Section 3.10, "Hazards and Hazardous Materials," for a discussion of potential Proposed Project impacts (from construction and operations and maintenance) related to the accidental release of a hazardous substance, which were determined to be less than significant with implementation of Final SRGO Program EIR general protection measures and mitigation measures.

The Proposed Project is therefore consistent with and would not result in new or more severe potentially significant impacts than identified in the Final SRGO Program EIR, and the Final SRGO Program EIR adequately addresses potential significant irreversible environmental changes.

3.4 Agriculture

3.4.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to agricultural resources. The environmental setting and evaluation of impacts on agricultural resources are based on a review of existing, publicly available literature and data.

See Section 3.3, "Environmental Issues Not Requiring Further Analysis," for a discussion of forestry resources.

No comments addressing agricultural resources were received in response to the Notice of Preparation (NOP). See Appendix A for NOP comment letters.

3.4.2 Environmental Setting

The following sections describe the existing agricultural resources on the Proposed Project site and in the vicinity that could be affected by construction of the Proposed Project, by the constructed facilities, or by operations and maintenance activities associated with the Proposed Project.

The Feather River region is located on the east side of the Sacramento Valley in Northern California. The region encompasses an area of approximately 740 square miles and includes portions of Butte, Glenn, Colusa, Sutter, and Yuba counties. It includes approximately 324,000 acres of agricultural land, a majority of which is irrigated through surface water diversions; and approximately 76,000 acres of important riparian habitat, managed wetlands, and wildlife areas and refuges, including Sutter National Wildlife Refuge, Gray Lodge Wildlife Area, Upper Butte Basin Wildlife Area, North Central Valley Wildlife Management Area, and Butte Sink Wildlife Management Area.

Surface water from the Feather River is the most prominent source of water for irrigation. On average, between 1999 and 2012, the region had 306,000 cropped acres, plus 18,000 additional acres of fallow or idle land. Total agricultural acreage varies somewhat from year to year because of changes in areas of native vegetation and rural residential and urban development. The main crop grown in the region is rice. Between 1999 and 2012, rice was grown on an average of 183,000 acres, or 60 percent of the total cropped area. Permanent orchard crops, primarily prunes and walnuts, were grown on an average of 88,000 acres (29 percent of the total cropped area) during this period. A variety of other crops including assorted field and truck crops, hay, and grains were grown on the remaining land, accounting for an average of 34,000 acres. The acreage of these other crops has decreased over time from more than 40,000 acres in the early 2000s to around 28,000 acres in the 2010s (Northern California Water Association 2021).

The Proposed Project site is located on and in the vicinity of the Feather River approximately 2 miles southeast of Live Oak in Sutter and Yuba counties, California. The western boundaries of the main site for the Sunset Weir removal, pump station replacement and upgrade, and left bank repair activities

associated with the Proposed Project are defined by portions of the west levee of the Feather River, the western bank of the Sutter Extension Water District (SEWD) Main Canal, and the right (west) bank of the Feather River. The site's eastern boundaries are defined by the left (east) bank of the Feather River and an area extending roughly 100 feet landward, depending on location. The northern and southern boundaries are defined by the Feather River and adjacent SEWD property and agricultural land.

The main site for the Proposed Project, the four alternative staging areas, and SEWD's maintenance yard (which may be used for spoils storage) are referred to collectively as the "Proposed Project site." The Proposed Project would not include any components on farmland; however, the Proposed Project site is bordered by Prime Farmland and Farmland of Local Importance (California Department of Conservation 2022).

The Proposed Project site is in both Sutter and Yuba counties. The land bordering the west bank of the Feather River and the portion of the Proposed Project site located in Sutter County are zoned for Agriculture. The land bordering the east bank of the Feather River and the portion of the Proposed Project site located in Yuba County are zoned as AE-40, or Exclusive Agricultural District. **Figure 3.4-1** shows farmland classifications for the Proposed Project site, as determined by the Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation (DOC), Division of Land Resource Protection. See Section 3.4.3, "Regulatory Setting," for definitions and discussion of FMMP classifications and "Special Designation Farmland" under CEQA.

There are no lands with Williamson Act contract status on or near the Proposed Project site, based on DOC's Williamson Act map data for 2023 (California Department of Conservation 2025).

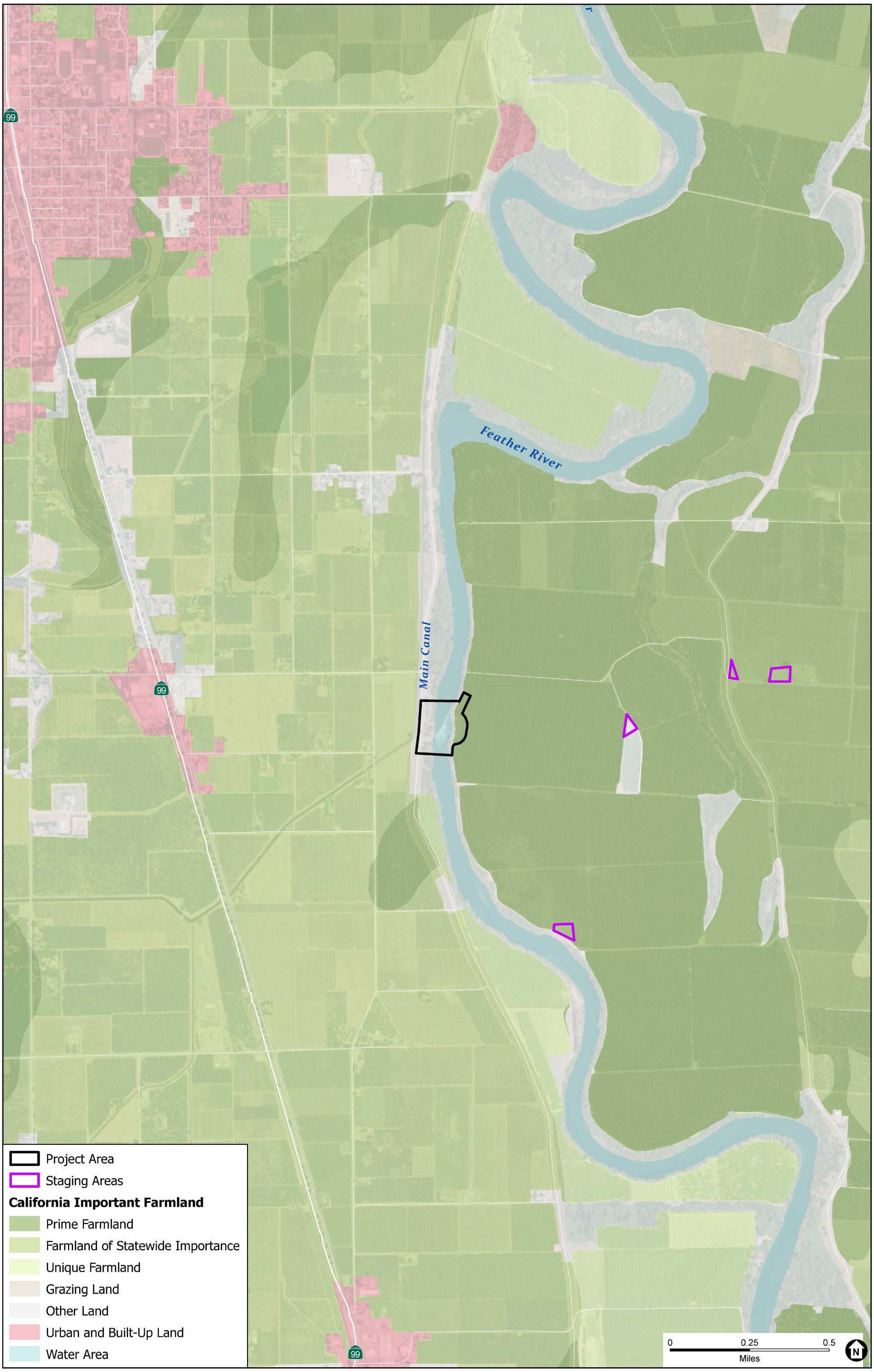
Upstream Agricultural Diversions

The lowered water surface elevations caused by removal of the weir may impact upstream agricultural diversions and require individual diverters to evaluate and potentially modify existing diversion works, pumps, or appurtenant infrastructure to maintain existing diversion practices.

As diversions, with modifications, would be able to continue there would not be a physical environmental effect of the Project that would result in conversion of agricultural land, loss of farmland, or another impact under the CEQA thresholds of significance for agricultural resources. Therefore, these effects do not constitute significant environmental impacts under CEQA.

3.4.3 Regulatory Setting

Federal and State regulations discussed in Section 3.3.3, "Regulatory Setting," of Section 3.3, "Agriculture and Forestry Resources," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR.



SOURCE: Maxar 2024; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 3.4-1
California Important Farmland

ESA

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Federal

Farmland Protection Policy Act

The Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture is the agency primarily responsible for implementing the federal Farmland Protection Policy Act. The purpose of this law is to minimize federal contributions to the conversion of farmland to non-agricultural uses by ensuring that federal programs are administered in a manner compatible with State, local, and private programs to protect farmland.

The NRCS administers the Farmland Protection Policy Act through a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural use. The program provides matching funds to State, local, or tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to non-agricultural uses and retain all rights to the property for future agriculture (Natural Resources Conservation Service 2025a).

The Farmland Protection Policy Act established the Farmland Protection Program and the Land Evaluation and Site Assessment system. The system is a tool used to rank lands for suitability and inclusion in the Farmland Protection Program. The land evaluation involves rating soils and placing them into groups ranging from the best to the least suited for a specific agricultural use, such as for cropland, forestland, or rangeland. The site assessment involves three major areas: non-soil factors related to agricultural use of a site, factors related to development pressures, and other public values of a site. Each factor is assigned a range of possible values according to local needs and objectives (Natural Resources Conservation Service 2025b).

State

California Farmland Conservancy Program

DOC's California Farmland Conservancy Program was established in 1996 to encourage the permanent conservation of productive agricultural lands in collaboration with local entities. In creating this program, the California Legislature recognized the important contribution made by farmland to the state's food supply and the additional benefits of farmland: conserving wildlife habitat, protecting wetlands, and preserving scenic open space.

The California Farmland Conservancy Program supports local efforts to conserve farmland by providing grant funds for the purchase of agricultural conservation easements. These easements are deed restrictions to ensure that a given piece of agricultural land can never be used for purposes that would interfere with farming, leaving farmers free to make all ongoing agricultural management decisions on their land.

California Farmland Mapping and Monitoring Program

In 1980, DOC started the FMMP as a system of mapping and monitoring important farmland in California based on soil and climatic characteristics. CEQA lead agencies are required to evaluate agricultural resources in environmental assessments based at least in part on the FMMP. The State's system was designed to document the amount of agricultural land in California that was being converted to non-agricultural land or transferred in or out of Williamson Act contracts.

The FMMP currently maps farmland in California to produce Important Farmland Maps that represent a combination of soil quality information (physical and chemical features) and land use information (type and degree of vegetative cover and/or type and intensity of land disturbance or development). The maps are updated every 2 years using aerial infrared photographs and field reconnaissance to map existing land uses (e.g., urban, rural residential, natural vegetation, water, agriculture) in combination with NRCS digital soil survey data. Therefore, Important Farmland Maps account for factors such as existing vegetation, the chemical and physical features of underlying soil, and development intensity; but they do not consider land use regulations or restrictions, such as local land use plans, rights-of-way, or uses prohibited by easements or other ownership restrictions.

The California Public Resources Code (Sections 21060.1 and 21095) defines "agricultural land" under CEQA as those lands designated by the FMMP as either Prime Farmland, Farmland of Statewide Importance, and/or Unique Farmland. Appendix G of the CEQA Guidelines refers to these same three categories as "Farmland." Definitions of these FMMP categories, referred to in this Draft SEIR as "Special Designation Farmland," are as follows:

- **Prime Farmland**—Land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to mapping.
- **Farmland of Statewide Importance**—Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to mapping.
- **Unique Farmland**—Land of lesser quality soils used for the production of the state's leading agricultural cash crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
- **Farmland of Local Importance**—Land other than Prime Farmland, Farmland of Statewide Importance, and Unique Farmland that either is currently producing crops, has the capability to produce crops, or is used to produce confined livestock. This land includes farmland of potential local importance.
- **Grazing Land**—Land on which existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing by livestock.
- **Other Land**—Land that is not included in any of the other mapping categories. This land generally includes land in rural residential development; land not suitable for livestock grazing; government land; rights-of-way outside of urban and built-up areas; facilities for confined livestock or aquaculture; mines, borrow pits, or gravel pits; water bodies smaller than 40 acres; or other rural land uses not suitable for agricultural operations.
- **Urban and Built-Up Land**—Land occupied by structures with a density of at least one dwelling unit per 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public utility structures, and other developed purposes.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use for a term of at least 10 years. In return, landowners receive property tax assessments that are much lower than normal, because they are based on farming and open space uses as opposed to full market value.

The Williamson Act was amended in August 1998 to establish Farmland Security Zones and Farmland Security Zone contracts. These contracts, colloquially called "Super Williamson Act contracts," are limited to higher quality farmlands and have larger tax breaks and higher cancellation fees. Landowners can receive an additional 35 percent reduction in the land's value for property tax purposes. This additional tax reduction can be earned only if farmers and ranchers keep their property under contract for at least 20 years. Farmland Security Zone contracts are comparable to the Williamson Act contracts, in that each year, another year is added to the agreement unless the landowner or county does not renew the contract. Lands under a Williamson Act contract may be used for purposes other than agricultural pursuits. The Williamson Act provides that open space is a compatible use. Open space includes "use or maintenance of land in a manner that preserves its natural characteristics, bounty, or openness for the benefit and enjoyment of the public [or] to provide habitat for wildlife" (California Government Code Section 51201). Yuba County currently does not have any land under a Williamson Act contract (California Department of Conservation 2025).

Regional and Local

Sutter County General Plan

The following goals and policies in the Sutter County General Plan are applicable to the Proposed Project.

Goal AG 1: Preserve and protect high-quality agricultural lands for long-term agricultural production.

Policy AG 1.1: Agricultural Land Preservation. Preserve and maintain agriculturally designated lands for agricultural use and direct urban/suburban and other nonagricultural related development to the cities, unincorporated rural communities, and other clearly defined and comprehensively planned development areas.

Policy AG 1.5: Agricultural Land Conversion. Discourage the conversion of agricultural land to other uses unless all of the following findings can be made:

a) The net community benefit derived from conversion of the land outweighs the need to protect the land for long-term agricultural use.

b) There are no feasible alternative locations for the proposed use that would appreciably reduce impacts upon agricultural lands.

c) The use will not have significant adverse effects, or can mitigate such effects, upon existing and future adjacent agricultural lands and operations. (AG 1-A)

Goal AG 2: Minimize conflicts between agricultural uses and operations and adjacent non-agricultural uses.

Policy AG 2.1: Minimize Conflicts. Require that new development adjacent to agricultural areas be designed to minimize conflicts with adjacent agricultural uses and operations. (AG 1-A/AG 1-C)

Policy AG 2.3: Buffers. Protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed nonagricultural uses and adjacent agricultural operations:

a) Buffers should be physically and biologically designed to avoid conflicts between agricultural and nonagricultural uses. The biological design should ensure that the buffer does not provide a host environment for pests or carriers of disease which could potentially impact adjacent farming operations.

b) Buffers shall not be located on the agricultural parcel(s).

c) Buffers should primarily consist of a physical separation (setback) between agricultural and non-agricultural uses. The appropriate width of the buffer shall be determined on a site-by-site basis taking into account the type of existing agricultural uses (i.e. crop type and associated operational requirements); the nature of the proposed non-agricultural development; the natural features of the site; landscaping, walls or other barriers planned by the proposed development; and any other factors that affect the specific situation.

d) In addition to a physical separation, the following buffer options may be considered: greenbelts/open space, limited park and recreation areas, roads, PUE's, waterways, and vegetative screens. These buffering options may be used in any combination to most effectively reduce conflicts arising from adjacent incompatible uses.

e) An ongoing maintenance program for the buffer shall be established and should include vector controls.

f) Buffer restrictions may be removed if all adjacent parcels have been irreversibly converted to non-agricultural uses.

Goal AG 3: Protect the natural resources needed to ensure that agriculture remains an essential and sustainable part of Sutter County's future.

Policy AG 3.1: Efficient Water Management. Support the efficient management and use of agricultural water resources where economically feasible to support agriculture.

Policy AG 3.2: Water Conservation and Recycling. Support the efforts of the multiple water agencies operating in Sutter County to adopt water conservation practices and explore the feasibility of water recycling for agriculture.

Policy AG 3.3: Water Quality and Quantity. Support efforts to maintain water resource quality and quantity for the irrigation of productive farmland.

Goal AG 4: Provide for growth, expansion, and diversification of Sutter County's agricultural industries.

Policy AG 4.3: New Technologies. Support the development and use of new technologies that facilitate resource efficient operation of agriculturally related industries, including food processing. These technologies may include: energy development technologies, such as wind, solar and waste sources; energy and water conservation technologies; cultivation practices; global positioning system (GPS) applications; and others that improve the profitability of agriculture in Sutter County.

Yuba County General Plan

The following goals and policies in the Yuba County General Plan are applicable to the Proposed Project.

Goal NR3: Farmland. Provide for long-term, vibrant local agricultural operations.

Policy NR3.2: New developments adjacent to ongoing agricultural operations shall provide written notice to landowners and residents regarding potential noise, dust, odors, and other effects of adjacent agriculture.

Policy NR3.4: New developments adjacent to ongoing agriculture shall incorporate design, construction, and maintenance techniques to minimize conflicts with adjacent agricultural uses, including but not limited to the use of agricultural buffers.

3.4.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to agriculture and forestry resources is considered significant if the Proposed Project would do any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (referred to in this section as "Special Designation Farmland"), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

Methodology and Assumptions

As discussed in Chapter 1, the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the

impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts of the Proposed Project on agricultural resources. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance activities (long-term, permanent).

Impacts and Mitigation Measures

Table 3.4-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.4-1
SUMMARY OF IMPACT CONCLUSIONS—AGRICULTURE

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.4-1: Implementation of the Proposed Project could convert Special Designation Farmland to non-agricultural use or conflict with existing zoning for agricultural use or a Williamson Act contract.	LTS	LTS
3.4-2: Implementation of the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Special Designation Farmland to non-agricultural use.	LTSG	LTS

Notes: LTS = less than significant; LTSG = less than significant with implementation of general protection measures
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.4-1: Implementation of the Proposed Project could convert Special Designation Farmland to non-agricultural use or conflict with existing zoning for agricultural use or a Williamson Act contract. (Final SRGO Program EIR Impact 3.3-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects to Special Designation Farmland, lands zoned for agricultural use, and land under a Williamson Act contract. The Final SRGO Program EIR found that these activities could result in temporary conversion of Special Designation Farmland or a conflict with agricultural zoning or Williamson Act contracts if they would occur on such lands. However, even with the acknowledgement that the time to construct restoration projects could be as long as several years, these conversions were found to be temporary, as the land disturbed by construction activities could be returned to agricultural use after construction. This impact was therefore determined to be less than significant in the Final SRGO Program EIR. (See Final SRGO Program EIR Section 3.3.4.)

Related to the Proposed Project, the Final SRGO Program EIR evaluated the installation of infrastructure such as culverts, fish screens, and other water control structures that improve water management

capabilities; removal of legacy structures; creation of depressions, berms, and drainage features; and the installation of cofferdams during construction. Proposed Project construction work covered by the Final SRGO Program EIR included grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and demobilization; stockpiling of construction materials; and disposal of excess materials. (See Final SRGO Program EIR Section 3.3.4.)

Consistent with the types of construction activities evaluated by the Final SRGO Program EIR, construction of the Proposed Project would require site preparation and demobilization; use of staging areas, access routes, and haul routes; grading and excavation; dewatering of portions of the Proposed Project site; the removal of Sunset Weir, construction of fish screens, and replacement and upgrade of the Sunset Pump Station; removal and salvage and/or disposal of existing pumps, pipes, and other water control structures that are no longer needed under Proposed Project conditions; bank stabilization; and installation of temporary cofferdams. As stated above, there are no lands with Williamson Act contract status on or near the Proposed Project site, therefore this topic is not discussed further.

During construction of the Sunset Pump Station replacement and upgrade, temporary water pumps would be installed in the Feather River immediately upstream (north) of the cofferdam to maintain SEWD deliveries. The construction contractor would be required to, at a minimum, have adequate pumping systems in place during the 6-month irrigation period each year of construction until the new pump station is tested and substantially complete (i.e., ready for operation). Temporary aboveground pipes would be used to convey irrigation water from the temporary pumps to the canal during construction. The aboveground pipes would not require any excavation and would not be located on active agricultural land. Therefore, irrigation water to agricultural land served by SEWD would be maintained, resulting in no impacts on Special Designated Farmland in the SEWD service area.

In 2019 (before the CEQA baseline date of August 1, 2024) a portion of the Sunset Weir was damaged, concentrating flows on the left bank of the Feather River; this resulted in substantial bank erosion and damage to an orchard (based on aerial review the erosion resulted in approximately 0.5 acre of orchard loss). Temporary staging for the proposed left bank stabilization work would occur within active farmland designated as Prime Farmland and would disturb approximately 80 trees in the orchard (approximately 1 acre). This temporary impact to Special Designation Farmland would not permanently convert the area to non-agricultural use. This area would continue to be able to be used for agricultural purposes after construction and DWR would communicate with the property owner before construction.

Project construction would avoid existing farmland to the extent feasible, the orchard trees removed for the new construction access road would not convert the area to a non-agricultural use, and the Proposed Project would not alter the overall characteristics of the existing farmland and would minimize any water service interruptions. Therefore, the Proposed Project would not significantly conflict with or convert Special Designated Farmland.

Consistent with the evaluation provided by the Final SRGO Program EIR, construction activities associated with the Proposed Project would be temporary and could be returned to agricultural use after construction. This impact would be ***less than significant***.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.3, “Agriculture and Forestry Resources,” Section 3.3.4, “Impacts and Mitigation

Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential construction impacts of the Proposed Project related to conversion of Special Designation Farmland to non-agricultural use or conflicts with existing zoning for agricultural use.

Effects of Constructed Facilities and Operations and Maintenance

Related to effects of constructed facilities and operations and maintenance activities of restoration projects permitted under the SRGO, the Final SRGO Program EIR evaluated activities such as the following: mechanical and chemical weed control; control of invasive and other non-native species, including predatory and nuisance species; replanting and reseeding; installation of fencing and signage; adjustments to grading or soils composition; installation and operation of monitoring equipment, including fish counters, flow gauges, depth gauges, cameras, stakes, and similar equipment; maintenance and repair of instream structures installed to improve or manage habitat or hydrologic function (e.g., grade control structures); maintenance and cleaning of fish screens; removal of debris and sediment from stream crossings; and maintenance and operation of fishways. (See Final SRGO Program EIR Section 2.7.2.)

The Final SRGO Program EIR found that restoration projects permitted under the Order could result in new long-term or permanent features that could result in the permanent conversion of Special Designation Farmland to non-agricultural use. For example, for projects with agricultural land within the alignment of off-channel infrastructure, that land would have to be removed from agricultural use. Additionally, some projects—bank stabilization, restoration and enhancement of off-channel and side-channel habitat, floodplain restoration, water conservation, and removal of nonnative terrestrial and aquatic invasive species and revegetation with native plants—would reduce soil erosion, recharge groundwater, use off-stream water storage during the dry season, provide natural pest control, and provide water quality buffers. These actions would be beneficial for existing Special Designation Farmland, agricultural zoning areas, or land under Williamson Act contracts.

Restoration projects permitted under the Order could result in short-term, long-term, or permanent conversion of Special Designation Farmland to non-agricultural uses, in conflicts with agricultural zoning, and in conflicts with Williamson Act contracts. Therefore, this impact was determined to be significant and unavoidable, even with the implementation of SRGO Mitigation Measures AG-1, AG-2, and GEO-6. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) This significance conclusion was reached because the extent and location of actions under the Order were not known, which made it impossible to conclude that the mitigation measure would reduce significant impacts to a less-than-significant level in all cases (see Final SRGO Program EIR Section 3.3.4).

Related to constructed facilities, construction of a construction access road that would require removal of approximately 130 trees (approximately 1.4 acres) within an area designated as Prime Farmland. This represents less than 0.5 percent of the existing approximately 339 acre orchard that exists within the approximately 352 acre parcel. However, the new construction access road with this associated tree removal would not result in the conversion of Special Designation Farmland to non-agricultural use because the area would still be used for agricultural purposes. Thus, SRGO Mitigation Measures AG-1, AG-2 and GEO-6 would not apply. In addition, implementation of the left bank stabilization portion of the Proposed Project would be designed to prevent further bank erosion that could indirectly affect agricultural resources along the Feather River without implementation of the Proposed Project.

Long-term operations and maintenance for the Proposed Project would be similar to baseline conditions. SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. As under baseline conditions, sediment and debris (e.g., large wood) may accumulate near the Sunset Pump Station and proposed fish screens. Thus, some degree of regular maintenance would occur to ensure that the pump station and fish screens would continue to function as intended. Sediment and debris clearing would occur consistent with baseline conditions, and removed sediment may be placed on agricultural lands with appropriate approvals.

Constructed facilities and operations and maintenance activities required for the Proposed Project would be consistent with those evaluated under the Final SRGO Program EIR, described above, including activities such as maintenance, cleaning, and/or repair of banks, equipment, and infrastructure. These activities would be periodic and limited; would occur within the Feather River and/or in the construction footprint; and would not result in the conversion of Special Designation Farmland to non-agricultural uses, including farmland under a Williamson Act contract. This impact would be ***less than significant***.

Constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.3, "Agriculture and Forestry Resources," Section 3.3.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential constructed facilities and operations and maintenance activities impacts of the Proposed Project related to conversion of Special Designation Farmland to non-agricultural use or conflicts with existing zoning for agricultural use.

Impact 3.4-2: Implementation of the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Special Designation Farmland to non-agricultural use. (Final SRGO Program EIR Impact 3.3-3.)

Effects of Construction Activities

The Final SRGO Program EIR found that construction activities for restoration projects permitted under the SRGO could negatively affect the viability of surrounding agricultural uses, impede or restrict access to agricultural areas (including Special Designation Farmland), or disrupt agricultural infrastructure. For example, storing construction materials could block access points; temporary stockpiling of excavated material or vegetation could impede the use of lands; irrigation systems could be disrupted and drainage could be affected by soil compaction; and/or construction activity could create dust that affects crop growth or promotes the spread of invasive species. Some projects—including establishing, restoring, and enhancing stream and riparian habitats—would reduce soil erosion from associated activities such as bank stabilization and erosion control work and would be beneficial for existing Special Designation Farmland.

The Final SRGO Program EIR found that the impact of project construction related to indirect conversion of Special Designation Farmland to non-agricultural use would be less than significant with implementation of General Protection Measures GPM-8, GPM-10 through GPM-12, GPM-15, and VHDR-1 through VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.)

Potential construction impacts of the Proposed Project are consistent with those analyzed in the Final SRGO Program EIR. The majority of construction activities would not occur directly on agricultural land;

however, construction would occur adjacent to agricultural land, including Special Designated Farmland. Approximately 120–200 orchard trees would be removed as part of the Proposed Project (as discussed in Impact 3.4-1). DWR would coordinate with individual landowners to avoid temporary construction-related impacts on agricultural land.

As evaluated in the Final SRGO Program EIR, these indirect impacts would be temporary and would be reduced to a less-than-significant level with implementation of project design measures such as coordination with landowners and implementation of applicable general protection measures. General Protection Measures GPM-8, GPM-10 through GPM-12, GPM-15, and VHDR-1 through VHDR-6 would be applied to the Proposed Project. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Thus, this impact would be ***less than significant with implementation of general protection measures***.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.3, "Agriculture and Forestry Resources," Section 3.3.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to indirect conversion of Special Designation Farmland.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR found that some restoration project types permitted under the SRGO—bank stabilization, restoration and enhancement of off-channel and side-channel habitat, floodplain restoration, water conservation, and removal of non-native terrestrial and aquatic invasive species and revegetation with native plants—could reduce soil erosion, recharge groundwater, use off-stream water storage during the dry season, provide natural pest control, and provide water quality buffers. These actions would be beneficial for existing Special Designation Farmland. No other potential impacts related to changes in the environment caused by restoration projects that could indirectly cause conversion of Special Designation Farmland were identified. Therefore, this impact was found to be less than significant. (See Final SRGO Program EIR Section 3.3.4.)

Consistent with the analysis in the Final SRGO Project EIR, the Proposed Project, once constructed, would not lead to additional changes to the environment that would cause indirect conversion of Special Designated Farmland. The constructed facilities would remain located as designed within the Proposed Project site. The Sunset Pump Station would continue to be operated and maintained in a manner consistent with baseline conditions. This impact would be ***less than significant***.

Constructed facilities and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.3, "Agriculture and Forestry Resources," Section 3.3.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to indirect conversion of Special Designation Farmland.

3.5 Air Quality and Greenhouse Gas Emissions

3.5.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to air quality and greenhouse gas (GHG) emissions. The environmental setting and evaluation of impacts on air quality and GHG emissions are based on a review of existing, publicly available literature and data.

No comments addressing air quality and GHG emissions were received in response to the Notice of Preparation (NOP). See **Appendix A** for NOP comment letters.

3.5.2 Environmental Setting

Air Quality

Air quality is affected by the rate, amount, and location of existing pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. The combined effects of atmospheric conditions (for example, wind speed, wind direction, and air temperature) and local surface topography (for example, geographic features such as mountains and valleys) determine how air pollutant emissions affect local air quality.

The Proposed Project site is located within Yuba and Sutter counties, which are under the jurisdiction of the Feather River Air Quality Management District (FRAQMD) for air quality regulation. FRAQMD is the primary local air quality agency for Yuba and Sutter counties and both counties are within the Sacramento Valley Air Basin (SVAB).

The climate of the SVAB is Mediterranean in character, with mild, rainy winter weather from November through March and warm to hot, dry weather from May through September. SVAB temperatures range from 20 to 115 degrees Fahrenheit and the average annual rainfall is 20 inches. The topographic features that give shape to the SVAB are the Coast Ranges to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These mountain ranges channel winds through the SVAB but also inhibit the dispersion of pollutant emissions.

The predominant annual and summer wind pattern in the SVAB is the full sea breeze, commonly referred to as the "Delta breeze." These cool winds originate from the Pacific Ocean and flow through a sea-level gap in the Coast Ranges called the Carquinez Strait. In the winter (December–February), northerly winds predominate. Wind directions in the SVAB are influenced by the predominant wind flow pattern associated with each season. However, on about half the days from July through September, a phenomenon called the "Schultz Eddy" occurs that prevents the Delta breeze from transporting pollutants north and out of the SVAB and causes the wind pattern to circle back south, causing air pollutants to remain within the SVAB. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood that State or federal air quality standards (Houlton and Lund 2018) will be violated.

The vertical and horizontal movement of air is an important atmospheric component involved in the dispersion and subsequent dilution of air pollutants. Without movement, air pollutants can collect and concentrate in a single area, increasing the associated health hazards. For instance, in the winter, the SVAB typically experiences calm atmospheric conditions that result in stagnant air and increased air pollution. As a result, persistent inversions occur frequently in the SVAB, especially during autumn, and restrict the vertical dispersion of pollutants released near ground level.

Air pollutants of concern within the SVAB include criteria air pollutants and toxic air contaminants (TACs).

Criteria Air Pollutants

The federal Clean Air Act (CAA) was enacted in 1970 (United States Code Title 42, Section 7401 et seq.). As required by the CAA, the U.S. Environmental Protection Agency (EPA) has identified six criteria air pollutants, for which both State and national health-based ambient air quality standards have been established: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public health– and welfare-based criteria as the basis for setting permissible levels. Reactive organic gases (ROG) are not one of the criteria pollutants but act as ozone precursors together with oxides of nitrogen (NO_X).

Of these six criteria pollutants, the pollutants of concern for FRAQMD are ozone and PM_{10} because their levels are generally the highest (as discussed further below), reflecting their association with vehicle exhaust and fugitive dust.

Although CO is emitted in vehicle exhaust, regional concentrations of CO have not exceeded federal or State standards for more than two decades. Occurrences of elevated localized CO concentrations, known as "hot spots," are often associated with heavy traffic congestion, which occurs most frequently at signalized intersections of high-volume roadways. FRAQMD does not provide screening volumes for potential CO hot spots. However, a nearby air district, the Bay Area Air District (formerly known as the Bay Area Air Quality Management District), recommends in its recent CEQA Air Quality Guidelines that a peak-hour vehicle screening level of 44,000 vehicles per hour be used as a level contributing to a potential CO hot spot. Intersections with vehicle volumes lower than 44,000 per hour are not expected to lead to any CO hot spots (Bay Area Air Quality Management District 2023).

Regional concentrations of SO_2 and NO_2 in the SVAB have not exceeded State standards for more than two decades. Emissions of SO_2 result predominantly from the combustion of sulfur-containing fuels (oil, coal, high-sulfur diesel), which are no longer used in California. Although NO_2 is a byproduct of fuel combustion in vehicles, the pollutant NO_2 is not itself a pollutant of concern. Ambient concentrations of NO_2 also have not exceeded State or federal standards for many years. At the time the ambient air quality standard for lead was promulgated, the ambient air was the source of a large portion of people's total lead exposure because of emissions from motor vehicles that ran on leaded gasoline. Air emissions of lead from motor vehicles have greatly declined since the removal of lead from gasoline.

Based on this information, these pollutants—CO, SO_2, NO_2, and lead—will not be discussed further in this section.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG (referred to by some regulating agencies as "volatile organic compounds"), and oxides of nitrogen (NO_X). The main sources of ROG and NO_X, often referred to as "ozone precursors," are products of combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. Ozone is a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Particulate Matter

PM_{10} and $PM_{2.5}$ respectively consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Major pollutant sources of PM_{10} include dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). Major pollutant sources of $PM_{2.5}$ include fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; it is also formed from photochemical reactions of other pollutants, including NO_X, oxides of sulfur, and organics. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local; others, such as vehicular traffic, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance than as a health hazard. The remaining fractions, PM_{10} and $PM_{2.5}$, are a health concern, particularly at levels above the federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) has greater effects on health because these particles are so small and can penetrate to the deepest parts of the lungs.

Scientific studies have suggested links between fine particulate matter and numerous health problems, including asthma, bronchitis, and acute and chronic respiratory symptoms, such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity (ill health) and mortality (premature deaths) and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM_{10} and $PM_{2.5}$ because their immune and respiratory systems are still developing.

Studies conducted since the 1990s have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health.

Toxic Air Contaminants

TACs are airborne substances that can cause short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects—injury or illness. TACs include both organic and inorganic chemical substances. They are emitted from a variety of common sources, including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs are regulated differently from criteria air pollutants at both the federal and State levels. At the federal level, these airborne substances are referred to as "hazardous air pollutants" (HAPs). The State list of TACs identifies 243 substances (California Air Resources Board 2025a) and the federal list of HAPs identifies 187 substances (U.S. Environmental Protection Agency 2024).

The California Air Resources Board (CARB) identified diesel particulate matter (DPM) as a TAC in 1998, based primarily on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and DPM concentrations are higher near heavily traveled highways and rail lines with diesel locomotive operations. Diesel engine emissions are believed to be responsible for about 70 percent of California's estimated known cancer risk attributable to TACs. In addition, DPM composes about 8 percent of outdoor emissions of $PM_{2.5}$, which is a known health hazard. As a substantial fraction of DPM, $PM_{2.5}$ contributes to numerous health impacts attributed to particulate matter exposure, including increased hospital admissions—particularly for heart disease, but also for respiratory illnesses—and even premature death. CARB estimates that DPM contributes to approximately 1,400 premature deaths from cardiovascular disease in California each year. Additionally, exposure to diesel exhaust may contribute to the onset of new allergies; a clinical study of human subjects has shown that diesel exhaust particles, in combination with potential allergens, may actually be able to produce new allergies that did not exist previously.

In 2000, CARB approved a comprehensive diesel risk reduction plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (California Air Resources Board 2000). Subsequent board regulations apply to new trucks and diesel fuel. With new controls and fuel requirements, 60 trucks built in 2007 had the same particulate exhaust emissions as one truck built in 1988. The regulation resulted in an 80 percent decrease in statewide diesel health risk in 2020 compared to the diesel risk in 2000.

Despite notable emissions reductions, CARB recommends considering proximity to DPM emissions sources in the siting of new sensitive land uses. CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level (California Air Resources Board 2005).

Another notable TAC is naturally occurring asbestos, a fibrous mineral found in ultramafic rock, which is commonly found in California. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence.

CARB developed an air toxic control measure to minimize naturally occurring asbestos emissions from grading and earthmoving activities where it is likely to be found (California Air Resources Board 2001).

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The occurrence and the severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts.

Odor-generating uses that may be present on the Proposed Project site include decaying material in waterlogged areas; anaerobic decomposition of organic materials; and agricultural sources such as dairy and poultry farms, pesticide, fertilizer, and herbicide application.

Attainment Area Designations

Attainment Status

The CAA and the California Clean Air Act (CCAA) require that all areas of California be classified as "attainment," "non-attainment," or "unclassified" as to their status relative to the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS). Under the CAA and the CCAA, CARB designates portions of the state's attainment status based on air quality monitoring data. Section 3.5.3, "Regulatory Setting," includes a more detailed discussion of these federal and State standards.

Table 3.5-1 shows the federal and State non-attainment statuses for the air basins in the study area for criteria pollutants. For this assessment, an air basin was considered non-attainment if any portion of the basin is designated non-attainment, even if whole or portions of counties are in attainment or unclassified. Because of the differences between the NAAQS and the CAAQS, the designation of non-attainment areas is different under federal and State legislation.

TABLE 3.5-1
FEATHER RIVER AIR QUALITY MANAGEMENT DISTRICT ATTAINMENT STATUSES

Pollutant and Averaging Time	Designation/Classification	
	Federal Standards	State Standards
Ozone (1-hour)	No Federal Standard	Non-attainment
Ozone (8-hour)	Non-attainment/Severe	Non-attainment/Serious
Carbon Monoxide	Attainment/Maintenance	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Attainment	Non-attainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Unclassified

Source: Feather River Air Quality Management District 2023

Sensitive Receptors

Air quality does not affect every individual or group in the population in the same way; some groups are more sensitive than others to adverse health effects caused by exposure to air pollutants. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and those with other environmental or occupational health exposures (e.g., bad indoor air quality) that affect cardiovascular or respiratory diseases. Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress.

Parks and playgrounds are considered moderately sensitive to poor air quality because people engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces overall exposure to pollutants. Residential areas are more sensitive to air quality conditions than commercial and industrial areas because people, including children, generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions.

Workers (such as farmworkers) are not considered sensitive receptors because children and the chronically ill are not present at workplaces, exposure time is shorter, and all employers must follow U.S. Occupational Safety and Health Administration regulations to ensure the health and well-being of their employees. Health risks are based on the exposure duration of a sensitive receptor, typically for receptors who spend the majority of their time in one location over a 30-year period.

The Proposed Project site is located in a rural area surrounded by agricultural land uses. There are no parks or playgrounds on the site. In rural areas, the primary sensitive receptor would be rural residences. The nearest off-site sensitive receptor to the Proposed Project site is an occupied residence located approximately 760 feet to the west. SEWD also has a residence near the pump station that is used by the employee responsible for operating and maintaining the pump station and property.

Greenhouse Gas Emissions

GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space—a phenomenon referred to as the "greenhouse effect." Some GHGs occur naturally and are necessary for keeping the earth's surface habitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected into space, intensifying the natural greenhouse effect and resulting in an increase in global average temperature.

Carbon dioxide (CO_2), methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons are the principal GHGs. CO_2, methane, and nitrous oxide occur naturally and are also generated by human activity. Emissions of CO_2 are largely byproducts of fossil fuel combustion, while methane results from off-gassing, natural gas leaks from pipelines and industrial processes, and incomplete combustion associated with agricultural practices, landfills, energy providers, and other industrial facilities. Nitrous oxide emissions are also largely attributable to agricultural practices and soil management. CO_2 sinks include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution and are two of the largest reservoirs of CO_2 sequestration. Other human-generated GHGs

include fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which have much higher potential for heat absorption than CO_2 and are byproducts of certain industrial processes.

CO_2 is the reference gas for climate change, as it is the GHG emitted in the highest volume. The effect of each GHG on global warming is the product of the mass of their emissions and their global warming potential (GWP). The GWP of a gas indicates how much the gas is predicted to contribute to global warming relative to the amount of warming that would be predicted to be caused by the same mass of CO_2. In emissions inventories, GHG emissions are typically reported as metric tons of carbon dioxide equivalent ($MTCO_2e$). Carbon dioxide equivalent (CO_2e) is calculated as the product of the mass emitted of a given GHG and its specific GWP. Methane and nitrous oxide have much higher GWPs than CO_2, but CO_2 is emitted in higher quantities and accounts for the majority of GHG emissions in CO_2e, both from commercial developments and from human activity in general.

Agricultural practices, dominant on the Proposed Project site, remain a significant source of GHG emissions. CARB estimates that agriculture is responsible for the emissions of 32 million $MTCO_2e$, making it the fifth largest source of California's GHG emissions (Legislative Analyst's Office 2021). Agricultural emissions represent the sum of emissions from agricultural energy use (from pumping and farm equipment), agricultural residue burning, agricultural soil management (the practice of using fertilizers, soil amendments, and irrigation to optimize crop yield), enteric fermentation (fermentation that takes place in the digestive system of animals), cultivation of histosols (soils composed mainly of organic matter), manure management, and rice cultivation. About 70 percent of emissions from the agricultural sector are methane emissions from livestock (Legislative Analyst's Office 2021).

3.5.3 Regulatory Setting

Federal and State regulations discussed in Section 3.5.3, "Regulatory Setting," of Section 3.5, "Air Quality and Greenhouse Gas Emissions," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR.

Federal

U.S. Environmental Protection Agency Programs and Standards

EPA is in charge of implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal CAA. As required by the CAA, EPA established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. The primary standards protect public health and the secondary standards protect public welfare. As discussed previously, only ozone and PM_{10} are pollutants of concern for purposes of the Proposed Project because of their status in FRAQMD as non-attainment pollutants. **Table 3.5-2** lists the current NAAQS, along with the current CAAQS discussed later in this section, for the pollutants of concern.

TABLE 3.5-2
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	National Standard	California Standard
Ozone	1 hour	—	0.09 ppm
	8 hours	0.070 ppm	0.070 ppm
	Annual average	0.030 ppm	—
Respirable Particulate Matter (PM_{10})	24 hours	150 µg/m^3	50 µg/m^3
	Annual average	—	20 µg/m^3

Notes: µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter that is 2.5 microns or less in diameter; PM_{10} = particulate matter that is 10 microns or less in diameter; ppm = parts per million

Source: California Air Resources Board 2025a

The CAA also requires each state to prepare an air quality control plan, referred to as a "state implementation plan," for areas that do not attain the NAAQS. Table 3.5-1 lists the NAAQS non-attainment status in the FRAQMD area. The state implementation plans comprise air quality plans from each of the state's air districts; these plans include strategies to reduce air pollution and achieve attainment of standards.

Air quality regulations also cover TACs, which federal agencies refer to as HAPs, as discussed above. In general, for TACs that cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. Instead, EPA and (in California) CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for toxics to limit emissions. These are discussed further below.

"Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has held that EPA must consider the regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency et al.* 127 S. Ct. 1438 (2007), 12 states and cities, including California, together with several environmental organizations sued to require EPA to regulate GHGs as pollutants under the Clean Air Act, or CAA. The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and that EPA had the authority to regulate GHGs.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The current and projected concentrations of the six key GHGs—CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings did not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Vehicle Emissions Standards

In 1975, Congress enacted the Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to this law, EPA and the National Highway Traffic Safety Administration are responsible for establishing additional vehicle standards. In August 2012, standards were adopted for model years 2017–2025 for passenger cars and light-duty trucks. The standards required vehicles to achieve both 54.5 miles per gallon (mpg) (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile by 2025. According to EPA, GHG emissions from a model year 2025 vehicle would be half the emissions from a model year 2010 vehicle (U.S. EPA 2012). Notably, the State of California harmonized its vehicle efficiency standards through 2025 with the federal standards.

In January 2017, EPA issued its Mid-Term Evaluation of the GHG emissions standards, finding that it would be practical and feasible for automakers to meet the model year 2022–2025 standards through a number of existing technologies. In August 2018, EPA revised its 2017 determination, issuing a proposed rule to maintain the 2020 Corporate Average Fuel Economy and CO_2 standards for model years 2021–2026.

On March 20, 2024, the EPA announced a final rule, *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, that sets new, more protective standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The final rule builds upon EPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to improve public health, reduce climate pollution, and reduce fuel and maintenance costs. These standards will phase in over model years 2027 through 2032. As of 2025, the EPA is set to reconsider the Years 2027 multi-pollutant standards with intentions to roll back the regulation (U.S. EPA 2025).

State

Criteria Air Pollutants

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the California Clean Air Act, or CCAA. The CCAA, adopted in 1988, required CARB to establish CAAQS. CARB has established standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter in addition to the above-mentioned federal criteria air pollutants. However, these pollutants are no longer a concern in California and are not monitored by CARB in its annual monitoring network plan (California Air Resources Board 2024). Therefore, they will not be discussed further (California Air Resources Board 2025a).

Table 3.5-1 lists the CAAQS non-attainment status for FRAQMD. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health-effects studies considered during the standard-setting process and the interpretation of those studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals. The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest date practical. The law specifies that local air districts should focus attention on reducing the emissions from transportation and areawide emission sources and provides air districts with the authority to regulate indirect sources.

California Environmental Quality Act Guidelines—Greenhouse Gas Emissions

On March 18, 2010, the California Natural Resources Agency adopted amendments to the CEQA Guidelines to include provisions for evaluating the significance of GHG emissions. The amended guidelines give the lead agency leeway in determining whether GHG emissions should be evaluated quantitatively or qualitatively, but they require that the following factors be considered when assessing the significance of impacts from GHG emissions (CEQA Guidelines Section 15064.4):

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines apply to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The amended CEQA Guidelines also specify that lead agencies must analyze potentially significant impacts associated with placing projects in locations susceptible to hazardous conditions (e.g., floodplains, coastlines, and wildfire risk areas), including those that could be affected by climate change (Section 15126.2[a]).

Furthermore, the guidelines suggest measures to mitigate GHG emissions, including implementing project features to reduce emissions, obtaining carbon offsets to reduce emissions, or sequestering GHGs.

Assembly Bill 32 and Senate Bill 32

In 2006, the Legislature enacted the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which created a comprehensive, multi-year program to reduce GHG emissions in California (California Air Resources Board 2018). AB 32 required CARB to develop a climate change scoping plan (Scoping Plan) describing the approach to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated at least every 5 years. This reduction was to be accomplished by enforcing a statewide cap on GHG emissions that would be phased in starting in 2012. The Scoping Plan is described in more detail below.

The emissions limit under the California Global Warming Solutions Act of 2016—Senate Bill (SB) 32—expanded upon AB 32 to reduce GHG emissions. It established a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and included provisions to ensure that the benefits of State climate policies would reach disadvantaged communities. SB 32 was contingent on the passage of AB 197, which increased legislative oversight of CARB and specified that CARB must report to the Legislature. AB 197 was also enacted and was signed into law in 2016.

Climate Change Scoping Plan

As mentioned previously, a specific requirement of AB 32 was to prepare a Scoping Plan for achieving the maximum technologically feasible and cost-effective reduction of GHG emissions by 2020. CARB developed and approved the initial Scoping Plan in 2008, outlining the regulations, market-based approaches, voluntary measures, policies, and other emissions reduction programs that would be needed to meet the 2020 statewide GHG emissions limit and initiate the transformations needed to achieve the State's long-range climate objectives (California Air Resources Board 2008). CARB approved the Final

2013 Scoping Plan Update in May 2014. In December 2017, CARB approved the *2017 Climate Change Scoping Plan Update*, which outlines the proposed framework of action for achieving the 2030 target of a 40 percent reduction in GHG emissions relative to 1990 levels (California Air Resources Board 2017).

The more recent *2022 Scoping Plan for Achieving Carbon Neutrality* lays out a path to achieve targets for carbon neutrality and reduce anthropogenic (resulting from the influence of human beings) GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (California Air Resources Board 2022). The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Regional and Local

Feather River Air Quality Management District Air Quality Management Plans

FRAQMD regulates air quality through its monitoring, evaluation, education, and implementation of control measures. The district has permitting authority over most types of stationary emission sources; it can require operators of stationary sources to obtain permits and can impose emission limits, set fuel or material specifications, and establish operational limits to reduce air pollutant emissions (Feather River Air Quality Management District 2025).

Sutter and Yuba counties are designated as non-attainment areas for the State 1-hour ozone, federal 8-hour ozone, State 8-hour ozone, and State PM_{10} standards. As a result, FRAQMD is required to prepare air quality plans under the federal CAA and CCAA to meet the NAAQS and CAAQS for these pollutants. Maintenance plans are required for attainment areas that had previously been designated non-attainment to ensure the continued attainment of the standards.

Current air quality plans adopted by FRAQMD include the following:

- *Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2021)
- *Implementation of SB 656 Measures to Reduce Particulate Matter* (Feather River Air Quality Management District 2005)

The air quality plans include emissions inventories that identify sources of air pollutants, evaluations of the feasibility of implementing potential opportunities to reduce emissions, sophisticated computer modeling to estimate future levels of pollution, and a strategy for further reducing air pollution.

Sutter County General Plan

The following goals and policies in the Sutter County General Plan (Sutter County 2011) are applicable to the evaluation of air quality and GHG emissions impacts of the Proposed Project.

Goal ER 9: Protect, maintain, and improve the air quality in Sutter County.

Policy ER 9.1: Ambient Air Quality Standards. Work with the California Air Resources Board and the Feather River Air Quality Management District (FRAQMD) to meet state and federal ambient air quality standards.

Policy ER 9.2: FRAQMD. Support FRAQMD in its establishment of appropriate standards to address the air quality impacts of new development.

Policy ER 9.3: Emission Reduction. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce air quality emissions. Such measures may include: adopting a trip reduction ordinance; adopting a comprehensive parking program that facilitates the use of alternative modes and carpooling; providing incentives for carpooling at the workplace; providing a comprehensive system of facilities for non-motorized transportation; developing transit infrastructure; and expanding the use of renewable fuels and low emission vehicles.

Goal LU 1: Promote the efficient and sensitive use of lands to protect and enhance Sutter County's quality of life and meet the needs of existing and future residents and businesses.

Policy LU 1.12: Climate Action Plan. Require new development to demonstrate consistency with the County's Climate Action Plan to reduce greenhouse gas emissions.

Policy LU 1.13: Landscape Design. Implement reduction measures in the Climate Action Plan, where appropriate, to help reduce greenhouse gas emissions through landscape design. These reduction measures can include: expanding tree planting within the County; and strategically planting trees and other landscaping to create shade and to reduce the heat island effect.

Goal M 7: Employ strategies that reduce the use of fossil fuels, reduce greenhouse gas emissions caused by transportation, and improve air quality.

Policy M 7.1: New Development. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce greenhouse gas emissions caused by automobile use. Such measures may include the following: reducing employee based automobile trips; adopting a comprehensive parking program for public and private parking lots that facilitate carpooling and alternative transportation use; managing transportation flow; increasing the use of carpooling; and expanding the use of renewable fuels and low emission vehicles.

Yuba County General Plan

The following goals and policies in the Yuba County General Plan (Yuba County 2011) are applicable to the evaluation of air quality and GHG emissions impacts of the Proposed Project.

Goal HS-5: Provide greenhouse-gas efficient development patterns and successfully adapt to future changes in Yuba County's climate.

Policy HS-5.2: The County's regulations, investments, and fee programs should be structured to reduce net greenhouse gas emissions for new development in the unincorporated County consistent with the level of emissions needed per-capita or per service population to achieve the County's fair share of the state's emissions mandate.

Policy HS-5.7: The County will work collaboratively with state agencies and public/private utility providers charged with regulating building efficiency, mobile-source emissions controls, energy sources and uses, and other components of GHG emissions to create the opportunity for more GHG-efficient local development.

Goal HS-6: Use construction practices and operational strategies that minimize air pollution.

Policy HS-6.1: New developments shall implement emission control measures recommended by the Feather River Air Quality Management District for construction, grading, excavation, and demolition, to the maximum extent feasible.

3.5.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to air quality and GHG emissions is considered significant if the Proposed Project would do any of the following:

- Conflict with or obstruct implementation of an applicable air quality plan.
- 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.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Methodology and Assumptions

As discussed in Chapter 1 of this Draft SEIR, the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the State CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential air quality and GHG impacts associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance (long-term, permanent).

Air Quality

For the evaluation of significance of air quality impacts, the *Indirect Source Review Guidelines* establish emissions-based thresholds of significance for criteria air pollutants (Feather River Air Quality Management District 2010), which are shown in **Table 3.5-3**. As described previously, only ozone and PM_{10} are pollutants of concern, given their status in the FRAQMD as non-attainment pollutants. The significance thresholds for construction-related and operational emissions are presented in Table 3.5-3. These thresholds of significance are based on a calendar-year basis, although construction emissions are assessed on a rolling 12-month period.

TABLE 3.5-3
FRAQMD THRESHOLDS OF SIGNIFICANCE

Source	NOx	ROG	PM_{10}
Construction	25 lb/day multiplied by project length, not to exceed 4.5 tons/year*	25 lb/day multiplied by project length, not to exceed 4.5 tons/year*	80 lb/day
Operational	25 lb/day	25 lb/day	80 lb/day

Notes: FRAQMD = Feather River Air Quality Management District; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter that is 10 microns or less in diameter; ROG = reactive organic gases

Source: FRAQMD 2010

FRAQMD recognizes incremental lifetime cancer risk and Hazard Index (HI) as health risks projects should evaluate but does not specify significance thresholds to be used for their evaluation. Therefore, the analysis presented below uses thresholds from other air districts such as Bay Area Air Quality Management District (BAAQMD) and Sacramento Metropolitan Air Quality Management District (SMAQMD). These include thresholds of 10 in one million for the evaluation of incremental lifetime cancer risk and HI of 1.

Construction Activities

Construction activities for the Proposed Project would generate criteria air pollutants primarily from fuel combustion by construction equipment and vehicle trips for worker commutes, material delivery, and hauling, and particulate matter from soil disturbance and site preparation (also known as “fugitive dust”). Construction activities are anticipated to generally occur between 7 a.m. and 7 p.m. 5 days a week; construction times may be extended into the night or weekend during key times of the construction phase, as needed. The phases of construction would occur between April 2027 and September 2029 over a period of three consecutive construction years. Dry work such as staging equipment, and pump station startup and in water work outside of the cofferdams would occur outside of the flood season, between mid-April and late October. The activities that would occur over the wet season would be cofferdam

excavation and wet well work for the pump station. The following information was supplied by the Project applicant and was used for modeling emissions from construction activities:

- Start and end dates for each construction phase.
- Equipment types, quantity, and hours of use for each construction phase.
- Number of workers and worker trip length.
- Quantity of imported and exported material, haul truck capacity, and haul truck trip length.

Construction emissions were estimated using methodology consistent with the most recent version of CalEEMod using OFFROAD, EMFAC2025 and AP-42 emission factors. Emissions from in-water equipment such as tugboats were calculated using EPA's Port Emissions Inventory Guidance. Modeling inputs and results can be found in **Appendix C**, "Air Quality Modeling," of this Draft SEIR.

Operations and Maintenance Emissions

Operational activities would include routine maintenance involving light-duty pickup trucks and a few pieces of heavy-duty construction equipment for intermittent maintenance. Emissions from the trucks and equipment would be minimal and would occur infrequently over the lifetime of the Proposed Project. Because there would be minimal activity during the operational lifetime of the Proposed Project, emissions resulting from operations have not been quantified.

Construction Health Risk Assessment

The potential for the Proposed Project to expose sensitive receptors to substantial pollutant concentrations is associated mainly with construction emissions, which involve diesel combustion equipment. Emissions resulting from operations are assumed to be negligible; therefore, health risks from diesel-fueled construction equipment and trucks are the main concern for this analysis. Trucks would likely travel along State Route 99 and levee access roads to access the Proposed Project site. The nearest residence is located approximately 760 feet to the west and is included as the sensitive receptor in the analysis.

The TACs included in the health risk assessment were limited to the pollutants of primary concern, which include diesel exhaust particulate matter (i.e., DPM) and $PM_{2.5}$ exhaust emissions from heavy construction equipment and trucks, and $PM_{2.5}$ fugitive road dust from construction activities. Emissions of PM_{10} exhaust are used as a surrogate for DPM emissions.[1]

The analysis methods for the health risk assessment are consistent with Office of Environmental Health Hazard Assessment (OEHHA) guidelines. The health risk assessment evaluates the estimated incremental increase in lifetime cancer risks from exposure to DPM emissions from the construction site and the haul route. Consistent with this guidance, exposure to a residential receptor was assumed in the third-trimester of an unborn fetus, which conservatively represents the most sensitive receptor.

The health risk assessment was conducted using EPA's AERMOD dispersion model (version 24142) using project site specific terrain data and meteorology from the Yuba County Airport for the years 2015 to 2020.

[1] OEHHA guidance indicates that the cancer potency factor to be used to evaluate cancer risks was developed based on whole (gas and particulate matter) diesel exhaust, and that the surrogate for whole diesel exhaust is DPM, with PM_{10} serving as the basis for the potential risk calculations.

Emissions from construction equipment were represented as an area source of the Proposed Project site and emissions from haul trucks were represented as a line source along the levee road adjacent to the Proposed Project site. Scattered residences in the Project vicinity were modeled as discrete receptors. The modeling parameters are as follows:

- Construction site:
  - Area source placed over the Proposed Project site.
  - Release height of 5.0 meters for construction equipment exhaust.
  - Initial vertical dimension of 1.4 meters.
  - Receptor flagpole height of 1.8 meters.
- Haul route:
  - Line volume source along the levee road adjacent to the Proposed Project site.
  - Release height of 2.55 meters for haul truck exhaust.
  - Initial vertical dimension of 2.37 meters.
  - Receptor flagpole height of 1.8 meters.

The sources were modeled with an emission rate of 1 gram per second to obtain a dispersion factor (unit concentration) at each receptor location. Emissions of exhaust PM_{10} were assumed to be DPM. The DPM concentrations and hazard index were calculated using dispersion factors from AERMOD and the DPM emissions estimated for Project construction equipment and trucks fueled by diesel.

Lifetime excess cancer risk and the chronic hazard index were calculated using the resulting DPM concentrations along with equations and factors from the OEHHA 2015 Risk Assessment Guidelines (Office of Environmental Health Hazard Assessment 2015). Modeling assumptions, equations, and the cancer risk calculations are included in Appendix C.

Greenhouse Gases

Any single project would be unlikely to create a significant impact on global or local GHG concentrations. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere, which in turn have been shown to be the main cause of global climate change (Intergovernmental Panel on Climate Change 2013). Therefore, the environmental effects of GHG emissions from the proposed project are addressed cumulatively in this DEIR.

California Department of Water Resources Goals and Thresholds

DWR has developed a series of plans and updates that constitute its climate action plan (CAP), which guides how DWR addresses climate change for the programs, projects, and activities over which it has authority. In 2012, DWR developed the Greenhouse Gas Emissions Reduction Plan (GGERP) (California Department of Water Resources 2012) as the first phase of its CAP to guide decision-making related to energy use and GHG emissions. Meeting its commitment made in 2012, DWR has developed the GGERP Update 2020 (California Department of Water Resources 2020) to review its GHG emissions reductions since the 2012 GGERP and to update strategies for further reductions consistent with legislative changes, including the GHG emissions reduction targets established in Senate Bill (SB) 32. Most recently, DWR

developed the GGERP Update 2023 (California Department of Water Resources 2024) to review its GHG reductions since GGERP Update 2020 and to update strategies for further reduction consistent with legislative changes, including the GHG emissions reduction targets established in SB 1020 (2022) and SB 1203 (2022).

DWR's near-term goal in the 2012 GGERP was to reduce its emissions to 50 percent below the 1990 emissions level by 2020. DWR was able to achieve this goal in 2015, five years earlier than the 2020 target date. DWR's mid-term goal in Update 2020 was to reduce its emissions to 60 percent below 1990 emissions level by 2030. DWR achieved this goal in 2021, nine years ahead of target.

In the GGERP Update 2023, DWR commits to a long-term goal to supply 100 percent of electricity load with zero-carbon resources and achieve carbon neutrality by 2035 as required by SB 1203.

DWR's mid-term goal exceeds the statewide emissions reduction target of 40 percent below the 1990 level by 2030, which was established in SB 32. DWR's long-term goal is consistent with the emissions reduction goals and policies established in SB 100 and Executive Order B-55-18. By achieving carbon neutrality by 2045, DWR will also exceed the statewide goal of reducing emissions by at least 80 percent below the 1990 level by 2050, which was established in Executive Order S-3-05. The GGERP Update 2023 identifies a list of GHG emissions reduction measures to achieve these goals.

In addition to providing the plan for meeting GHG emissions reduction targets, the GGERP Update 2023 is intended to be used for DWR's CEQA analyses of the potential contributions of future DWR projects to the cumulative impact of increased GHG concentrations in the atmosphere. DWR has developed construction emissions thresholds to distinguish between typical construction projects that are analyzed and addressed under the GGERP Update 2020 and "Extraordinary Construction Projects," whose construction emissions are not analyzed or addressed under the GGERP Update 2023. A construction project is considered an Extraordinary Construction Project and the GHG impacts from the construction activities will not be eligible to rely on Update 2023 for streamlined CEQA review if either of the following scenarios would occur:

- More than 25,000 MT CO_2e in total would be emitted during the project's construction phase.
- More than 12,500 MT CO_2e would be emitted by the project in any single year of construction.

These thresholds represent a level of GHG emissions that, by themselves, have the potential to adversely affect DWR's ability to achieve its GHG emissions reduction goals. However, construction activities for a project exceeding either of these thresholds would be more extensive than the typical level of construction activity performed by DWR and thus would exceed the level of cumulative effects analysis included in the GGERP Update 2023.

Thus, the GGERP Update 2023 does not consider or address construction emissions exceeding either of these thresholds. Projects exceeding these thresholds would not be eligible to rely on the analysis in the GGERP Update 2023 for project-specific cumulative impacts analyses under CEQA. DWR states that the thresholds used in the GGERP do not constitute a determination that they are applicable as thresholds of significance for CEQA purposes. Each project must be evaluated on a case-by-case basis, using the most up-to-date calculation and analysis methods.

Impacts and Mitigation Measures

Table 3.5-4 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.5-4
SUMMARY OF IMPACT CONCLUSIONS—AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.5-1: Implementation of the Proposed Project could conflict with or obstruct implementation of an applicable air quality plan.	LTSG	LTSG
3.5-2: Implementation of the Proposed Project could 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.	LTSM	LTSG
3.5-3: Implementation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.	LTSM	LTSG
3.5-4: Implementation of the Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTSG	LTSG
3.5-5: Implementation of the Proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	LTS	LTS

Notes: LTS = less than significant; LTSG = less than significant with implementation of general protection measures; LTSM = less than significant with implementation of the SRGO mitigation measures

Source: Data compiled by Environmental Science Associates in 2025

Impact 3.5-1: Implementation of the Proposed Project could conflict with or obstruct implementation of an applicable air quality plan. (Final SRGO Program EIR Impact 3.4-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects that could conflict with or obstruct implementation of an applicable air quality plan. (See SRGO Program EIR Section 3.5.) Related to the Proposed Project, the Final SRGO Program EIR evaluated the following construction activities: installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; removal of legacy structures; creation of depressions, berms, and drainage features; and the installation of cofferdams during construction. (See SRGO Program EIR Section 3.5.4.)

Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials. (See SRGO Program EIR Section 3.5.4.) The Final SRGO Program EIR found that these activities could conflict with or obstruct an applicable air quality plan and could result in potentially significant and unavoidable impacts. This significance conclusion was reached because the specific project characteristics such as location and size of the project, construction characteristics, attainment

status of the local air basin, and any applicable air quality plan were not known at the time. (See SRGO Program EIR Section 3.5.4.)

To address the air pollutant emissions from construction activities, the Final SRGO Program EIR included the following general protection measures when applicable to a given project: GPM-6 and GPM-12. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles.)

As part of the State Water Board's or a regional water quality control board's (RWQCB) issuance of a notice of applicability for a restoration project under the Order, compliance with SRGO Mitigation Measure AIR-1 would be required when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, the appropriate RWQCB, or other authorizing regulatory agency.

The Final SRGO Program EIR found this impact to be significant and unavoidable, even with implementation of the general protection and mitigation measures. This significance conclusion was reached because the extent and location of actions under the Order were not known, which made it impossible to conclude that the mitigation measure would reduce significant impacts to a less-than-significant level in all cases. (See SRGO Program EIR Section 3.5.4.)

FRAQMD has adopted the *Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2021) for ozone attainment planning and *Implementation of SB 656 Measures to Reduce Particulate Matter* (Feather River Air Quality Management District 2005) for particulate matter planning. As discussed below in Impact 3.5-2, construction-related emissions would be well below thresholds of significance for applicable criteria pollutants. The construction contractor for the Proposed Project would implement the general protection measures described above to minimize emissions from construction activities. Construction of the Proposed Project is not anticipated to violate any air quality standards, contribute substantially to an air quality violation, or result in a short-term cumulatively considerable net increase of non-attainment pollutants; therefore, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. General Protection Measures GPM-6 and GPM-12 would be applied to the Proposed Project. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also **Appendix B**.) Thus, impacts related to conflicts of Project construction with an applicable air quality plan would be ***less than significant with implementation of general protection measures.*** Because this impact would be less than significant, SRGO Mitigation Measure AIR-1 is not applicable.

Accordingly, construction activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.5, "Air Quality and Greenhouse Gas Emissions," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project related to consistency with applicable air quality plans.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of constructed features and operation and maintenance of those facilities that could conflict with or obstruct implementation of an applicable air quality plan. Related to the Proposed Project, the Final SRGO Program EIR evaluated operations and maintenance activities necessary to support successful establishment of natural conditions, including the following: conducting mechanical and chemical weed control; installing fencing and signage; adjusting grading or soils composition; and installing and operating monitoring equipment such as groundwater wells, flow gages, depth gauges, cameras, and stakes. (See SRGO Program EIR Section 3.5.4.)

The Final SRGO Program EIR found that emissions from these activities would not violate an air quality standard, contribute substantially to an air quality violation, or result in a short-term cumulatively considerable net increase of non-attainment pollutants, and thus would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, impacts would be less than significant. (See SRGO Program EIR Section 3.5.4.)

The Final SRGO Program EIR stated that implementation of General Protection Measures GPM-6 and GPM-12 would further reduce impacts from the operation and maintenance of those facilities, when applicable to a given project.

Operations and maintenance activities for the Proposed Project would be similar to existing operations and maintenance activities. The Proposed Project would not generate a substantial increase in maintenance activities; such activities would be required only intermittently and could result in a minor increase in motor vehicle trips compared to existing conditions. These trips would occur infrequently and would have negligible emissions, and they would not conflict or obstruct the implementation of an applicable air quality plan. No mitigation measures are required to maintain constructed facilities or to perform long-term operations and maintenance activities.

Consistent with projects analyzed under the Final SRGO Program EIR, constructed facilities and routine operations and maintenance of constructed facilities are not anticipated to violate an air quality standard, contribute substantially to an air quality violation, or result in a short-term cumulatively considerable net increase of non-attainment pollutants. In addition, General Protection Measures GPM-6 and GPM-12 would be followed to further reduce the impacts of any ground-disturbing activities during operations and maintenance for the Proposed Project related to work area and speed limits and dust suppression. (See SRGO Program EIR Section 4.6.3.) Therefore, this impact would be ***less than significant with implementation of general protection measures***.

Constructed facilities and operation and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.5, “Air Quality and Greenhouse Gas Emissions,” Section 3.5.4, “Impacts and Mitigation Measures”) and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed constructed facilities and operation and maintenance activities impacts of the Proposed Project associated with consistency with applicable air quality plans.

Impact 3.5-2: Implementation of the Proposed Project could 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. (Final SRGO Program EIR Impact 3.4-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects related to compliance with applicable air quality standards. Related to the Proposed Project, the Final SRGO Program EIR evaluated the following construction activities: installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; removal of legacy structures; creation of depressions, berms, and drainage features; and the installation of cofferdams during construction. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials. (See SRGO Program EIR Section 3.4.4.)

The Final SRGO Program EIR stated that implementation of General Protection Measures GPM-6 and GPM-12 would be required, when applicable to a given project. (See SRGO Program EIR Section 3.4.4.) In addition, as part of the State Water Board or RWQCB's issuance of a notice of applicability for a restoration project under the Order, compliance with SRGO Mitigation Measure AIR-1 would be required, when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) SRGO Mitigation Measure AIR-1 requires projects with construction emissions above recommended significance thresholds from the local air quality management district or air pollution control district to develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, the appropriate RWQCB, or other authorizing regulatory agency.

The Final SRGO Program EIR found that construction activities could result in significant and unavoidable impacts related to a cumulatively considerable net increase of criteria pollutants, because specific characteristics such as location and size of restoration projects covered under the Order, construction characteristics, and local thresholds of significance were not known at the time. (See SRGO Program EIR Section 3.4.4.)

Emissions from construction of the Proposed Project were estimated as described under *Methodology and Assumptions* earlier. Unmitigated construction emissions estimated are summarized in **Table 3.5-5** and compared to FRAQMD thresholds of significance for criteria pollutants. In addition, General Protection Measures GPM-6 and GPM-12 would be implemented to further reduce the impacts of ground-disturbing activities for the Proposed Project related to dust suppression. As shown in Table 3.5-5, emissions from

construction activities for NOx would exceed the FRAQMD significance threshold of 25 pounds per day during all three construction years. Unmitigated emissions of ROG and PM_{10} would be below their respective FRAQMD thresholds. Because NOx emissions would exceed the FRAQMD threshold, SRGO Mitigation Measure AIR-1 would be required.

TABLE 3.5-5
UNMITIGATED CONSTRUCTION EMISSIONS SUMMARY (POUNDS PER DAY)

Construction Year	ROG	NO_X	PM_{10}
2027	4.1	**29.1**	36.9
2028	4.0	**28.6**	36.9
2029	4.0	**28.2**	36.9
FRAQMD Thresholds	25	25	80
Exceeds threshold?	No	**Yes**	No

NOTES: FRAQMD = Feather River Air Quality Management District; NO_X = oxides of nitrogen; PM_{10} = particulate matter that is 10 microns or less in diameter; ROG = reactive organic gases

Bold values show exceedance of threshold

SOURCE: Data compiled by Environmental Science Associates in 2025

SEIR Mitigation Measure 3.5-1 provides additional clarification on requirements from SRGO Mitigation Measure AIR-1 and would reduce impacts by requiring construction contractors to use all equipment (land- and water-based) that comply with CARB and EPA's Tier 4 Final emission standards. **Table 3.5-6** shows construction emissions associated with the Proposed Project with implementation of SEIR Mitigation Measure 3.5-1. As shown in Table 3.5-8, mitigated emissions of ROG, NOx, and PM_{10} would be below the respective FRAQMD thresholds, and the impact would be ***less than significant with mitigation***.

TABLE 3.5-6
CONSTRUCTION EMISSIONS SUMMARY (POUNDS PER DAY) – WITH TIER 4 FINAL EQUIPMENT

Construction Year	ROG	NO_X	PM_{10}
2027	1.9	12.9	36.2
2028	1.8	12.4	36.2
2029	1.8	12.0	36.1
FRAQMD Thresholds	25	25	80
Exceeds threshold?	No	No	No

NOTES: FRAQMD = Feather River Air Quality Management District; NO_X = oxides of nitrogen; PM_{10} = particulate matter that is 10 microns or less in diameter; ROG = reactive organic gases

SOURCE: Data compiled by Environmental Science Associates in 2025

With implementation of SRGO Mitigation Measure AIR-1 and SEIR Mitigation Measure 3.5-1, construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The

Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project associated with the contribution to existing non-attainment conditions.

> **SEIR Mitigation Measure 3.5-1: Clean Construction Equipment.** Construction contractors for the Proposed Project shall be required to use all off-road construction equipment (land- and water-based) that meet CARB and EPA's Tier 4 Final emission standards. This requirement shall be specified in contract documents.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR found that activities related to constructed facilities and operations and maintenance of those facilities would not be expected to result in a cumulatively considerable net increase of any criteria pollutant for which a project region is non-attainment under an applicable federal or State ambient air quality standard, and impacts would be less than significant. The SRGO Program EIR stated that General Protection Measures GPM-6 and GPM-12 would be followed to further reduce the impacts of ground-disturbing operation and maintenance activities. (See SRGO Program EIR Section 3.4.4.)

As discussed previously under Impact 3.5-1, trips associated with operations and maintenance would occur infrequently; these trips would have negligible emissions that would not 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.

In addition, General Protection Measures GPM-6 and GPM-12 would be followed to further reduce the impacts of any ground-disturbing activities associated with operations and maintenance for the Proposed Project related to work area and speed limits and dust suppression. Because of the limited increase in activities associated with operations and maintenance, such activities would not be anticipated to result in a considerable increase of criteria pollutants that would exceed FRAQMD's thresholds for operational emissions. This impact would be ***less than significant with implementation of general protection measures***. Because this impact would be less than significant, Mitigation Measure AIR-1 is not applicable.

Constructed facilities and operation and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed constructed facilities and operation and maintenance impacts of the Proposed Project associated with the contribution to existing non-attainment conditions.

Impact 3.5-3: Implementation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations. (Final SRGO Program EIR Impact 3.4-4.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated construction activities for covered restoration projects (as described under Impact 3.5-2) that could expose sensitive receptors to substantial pollutant concentrations from construction emissions. The analysis found that these activities could result in potentially significant and unavoidable impacts, as the specific project characteristics such as the location and size of the project, construction characteristics, locations of surrounding sensitive receptors, and levels of air pollutant emissions were not known at the time. (See SRGO Program EIR Section 3.4.4.)

The Final SRGO Program EIR stated that General Protection Measures GPM-6 and GPM-12 would be required, when applicable to a given project. (See SRGO Program EIR Section 4.6.3.) In addition, as part of the State Water Board or RWQCB's issuance of a notice of applicability for a restoration project under the Order, compliance with SRGO Mitigation Measures AIR-1 and AIR-2 would be required when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) SRGO Mitigation Measure AIR-1 requires projects with construction emissions above recommended significance thresholds from the local air quality management district or air pollution control district to develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent CARB fleet average. SRGO Mitigation Measure AIR-2 requires air quality analyses prepared for future restoration projects to evaluate human health risks from potential exposures of sensitive receptors to substantial pollutant concentrations from the projects and implement control measures if estimated project health risks are determined to be significant based on local air quality management district or air pollution control district thresholds. Implementation of these mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, the appropriate RWQCB, or other authorizing regulatory agency.

The Final SRGO Program EIR found that construction activities could result in significant and unavoidable impacts because the extent and location of projects covered under the Order were not known at the time. (See SRGO Program EIR Section 3.4.4.)

Health risks from construction of the Proposed Project were estimated as described under *Methodology and Assumptions* earlier. **Table 3.5-7** presents the unmitigated lifetime excess cancer risk and chronic hazard index for the Proposed Project at the location of the maximally exposed individual resident (MEIR) for the construction site. As shown in Table 3.5-7, incremental lifetime cancer risk from Proposed Project construction activities would exceed the FRAQMD significance threshold of 10 in one million. Therefore, SRGO Mitigation Measure AIR-2 would be required.

TABLE 3.5-7
MAXIMUM HEALTH RISK FROM CONSTRUCTION—UNMITIGATED

Receptor	Cancer Risk (in 1 million)	Chronic Hazard Index
Maximally Exposed Individual Resident	**22.7**	0.02
FRAQMD Threshold	10	1
Significant?	**Yes**	No

NOTE: FRAQMD = Feather River Air Quality Management District
Bold value show exceedance of threshold.
SOURCE: Data compiled by Environmental Science Associates in November 2025.

In addition to reducing criteria air pollutant emissions from construction, implementation of SEIR Mitigation Measure 3.5-1 identified under Impact 3.5-2 would also reduce health risks by requiring construction contractors to use all equipment (land- and water-based) that comply with CARB and EPA's Tier 4 Final emission standards. **Table 3.5-8** shows mitigated health risks associated with the Proposed

Project with implementation of SEIR Mitigation Measure 3.5-1. As shown in Table 3.5-8, mitigated health risks would be less than both the incremental lifetime cancer risk and HI thresholds, and the impact would be ***less than significant with mitigation***.

TABLE 3.5-8
MAXIMUM HEALTH RISK FROM CONSTRUCTION—MITIGATED

Receptor	Cancer Risk (in 1 million)	Chronic Hazard Index
Maximally Exposed Individual Resident	5.1	0.01
FRAQMD Threshold	10	1
Significant?	No	No

NOTE: FRAQMD = Feather River Air Quality Management District
SOURCE: Data compiled by Environmental Science Associates, February 2024.

With implementation of Mitigation Measures AIR-1 and AIR-2 and SEIR Mitigation Measure 3.5-1, construction activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project associated with exposure of sensitive receptors to substantial pollutant concentrations.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of constructed features and operation and maintenance of those facilities that could expose sensitive receptors to substantial pollutant concentrations from construction emissions. Related to the Proposed Project, the Final SRGO Program EIR evaluated operations and maintenance activities necessary to support successful establishment of natural conditions and support the functionality of artificial/ constructed infrastructure, including conducting mechanical and chemical weed control; installing fencing and signage; adjusting grading or soils composition; and installing and operating monitoring equipment such as groundwater wells, flow gauges, depth gages, cameras, and stakes. The Final SRGO Program EIR found that, given the temporary and intermittent nature of the impacts and the dissipation of pollutant concentrations, such emissions would be unlikely to affect a substantial number of people and thus would result in a less-than-significant impact. (See SRGO Program EIR Section 3.4.4.)

The SRGO Program EIR stated that General Protection Measures GPM-6 and GPM-12 would be followed to reduce the impacts of ground-disturbing operation and maintenance activities for restoration projects permitted under the Order related to work area and speed limits and dust suppression.

For the Proposed Project, operation and maintenance activities would be similar to operation and maintenance activities under existing conditions. These activities would be required only intermittently and could result in a minor increase in TACs from heavy-duty vehicle trips. These trips would occur infrequently and would have negligible emissions.

Consistent with projects analyzed under the Final SRGO Program EIR, constructed facilities and the routine operation and maintenance of constructed facilities are not anticipated to expose sensitive receptors to substantial pollutant concentrations. General Protection Measures GPM-6 and GPM-12 would be followed to further reduce the less-than-significant impacts of ground-disturbing operations and maintenance activities related to work area and speed limits and dust suppression. Therefore, the Proposed Project would be consistent with the impacts discussed in the Final SRGO Program EIR and this impact would be ***less than significant with implementation of general protection measures***.

Constructed facilities and operation and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed constructed facilities and operations and maintenance impacts of the Proposed Project associated with exposure of sensitive receptors to substantial pollutant concentrations.

Impact 3.5-4: Implementation of the Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Final SRGO Program EIR Impact 3.4-3.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance Activities

The Final SRGO Program EIR found impacts to be less than significant given the temporary and intermittent nature of the impacts, and because with the dissipation of odors, objectionable odors are unlikely to affect a substantial number of people (see SRGO Program EIR Section 3.4.4). To further reduce odor emissions from construction activities, the Final SRGO Program EIR included the following general protection measure, when applicable to a given project: IWW-13. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles.)

Consistent with projects analyzed under the Final SRGO Program EIR, Proposed Project construction activities, constructed facilities, and the routine operation and maintenance of constructed facilities are not anticipated to result in other emissions such as those leading to odors that could adversely affect a substantial number of people. The Proposed Project's construction activities may create temporary odors from the combustion of diesel fuel from the required equipment. However, construction would not occur in one location for an extended period of time and would cease at the conclusion of construction. For the Proposed Project, operations and maintenance activities would occur at the Sunset Pump Station, fish screens, and their related appurtenances. However, these activities would be required only intermittently and would result in a minor increase in motor vehicle trips.

Any odorous emissions would be intermittent and would dissipate from the source rapidly over a short distance; the nearest receptor is located more than 700 feet to the west; and the land use does not fall under any category that is identified as an odor source. In addition, General Protection Measure IWW-13 would be implemented to further reduce odorous emissions from construction activities (see Appendix B). Therefore, the Proposed Project would be consistent with the impacts discussed in the Final SRGO Program EIR and this impact would be ***less than significant with implementation of general protection measures***.

Accordingly, construction, constructed facilities, and operation and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction, constructed facilities, and operation and maintenance impacts associated with odorous emissions.

Impact 3.5-5: Implementation of the Proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (Final SRGO Program EIR Impacts 3.4-5 and 3.4-6.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects that could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Despite the temporary and intermittent nature of construction impacts, the Final SRGO Program EIR found GHG emissions from construction activities to be potentially significant with respect both Appendix G criteria for GHG factors necessary to identify specific impacts were not available, such as the location of projects, construction characteristics, and the frequency and duration of emissions. Final SRGO Program EIR Mitigation Measure AIR-3 was identified to minimize GHG emissions through the implementation of best management practices based on guidance from the Air District and the California Air Pollution Control Officers Association. Even with mitigation, the impact was concluded to be significant and unavoidable because mitigation may not be sufficient to reduce emissions to below thresholds adopted by all air districts and lead agencies. With respect to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, the EIR concluded that even with implementation of Final SRGO Program EIR Mitigation Measures AIR-1, AIR-2, and AIR-3, the impact would remain significant and unavoidable. The Final SRGO Program EIR did not include any general protection measures applicable to these impacts.

GHG emissions that would be generated by the Proposed Project include emissions from heavy-duty off-road and marine equipment such as barges used for construction and on-road worker commute vehicles and construction trucks. **Table 3.5-9** presents the estimated total annual CO_2e emissions associated with each construction year for the Proposed Project.

As discussed previously, FRAQMD does not have an adopted threshold of significance for GHG emissions, nor does it provide updated guidance on how to address a project's GHG impacts with respect to the SB 32 and AB 1279 GHG emissions reduction targets. Therefore, the Proposed Project's GHG emissions impacts were examined by evaluating consistency with CARB's *2022 Scoping Plan for Achieving Carbon Neutrality* and DWR's GGERP Update 2023, both of which are consistent with SB 32.

TABLE 3.5-9
ESTIMATED GREENHOUSE GAS EMISSIONS ASSOCIATED WITH PROPOSED PROJECT CONSTRUCTION

Emissions Source	GHG Emissions by Construction Year (MT CO_2e)		
	2027	2028	2029
Off-road construction equipment	616	616	620
In-water equipment	61	61	61
On-road Vehicles	520	513	508
Total annual emissions	1,197	1,190	1,189

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons
Source: Data compiled by Environmental Science Associates in 2025; see Appendix C

Consistency with the 2022 Scoping Plan Update for Achieving Carbon Neutrality

The 2022 Scoping Plan assesses progress toward the statutory 2030 GHG reduction target while laying out a path to achieving carbon neutrality no later than 2045. The major element of the 2022 Scoping Plan is the decarbonization of every sector of the economy. This requires rapidly moving to zero-emission transportation for cars, buses, trains, and trucks; phasing out the use of fossil gas for heating; clamping down on chemicals and refrigerants; providing communities with sustainable options such as walking, biking, and public transit to reduce reliance on cars; continuing to build out solar arrays, wind turbine capacity, and other resources to provide clean, renewable energy to displace fossil fuel–fired electrical generation; and scaling up new options such as renewable hydrogen for hard-to-electrify end uses and biomethane where needed.

The Proposed Project would generate emissions primarily from construction equipment and vehicles, which CARB does not consider to be significant sources of GHG emissions that would impede the State's progress toward its GHG reduction goals. In its climate action planning, CARB targets operational sources such as building energy use and transportation as sectors where maximum reductions can be achieved. The 2022 Scoping Plan identifies transportation electrification, vehicle miles traveled reduction, and building decarbonization as the priority strategies for local government climate action. It includes one action item that addresses electrification of construction equipment and requires that 25 percent of construction energy needs be powered by electricity by 2030, with the percentage increasing to 75 percent by 2045. However, the Proposed Project's ability to meet this strategy depends on the availability of electric construction equipment in response to requirements imposed on equipment manufacturers and fleet owners. Therefore, this strategy is not implementable directly by the Proposed Project.

Policies formulated in response to these requirements, either directly or indirectly, are expected to be implemented automatically during construction of the Proposed Project as those policies and laws are developed and implemented. Therefore, emissions generated by construction and transport equipment used for the Proposed Project would not conflict with implementation of the 2022 Scoping Plan.

Consistency with DWR's Greenhouse Gas Emissions Reduction Plan Update 2023

DWR uses Phase 1 of its CAP—the GGERP and its updates—to streamline the CEQA cumulative impact analysis of GHG emissions for current and future DWR projects pursuant to CEQA Guidelines Sections 15064(h)(3), 15064.4(b)(3), 15130(d), and 15183.5. Section 15183.5 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." (See CEQA Guidelines Section 15064[h][3].)

DWR approved the 2012 GGERP following environmental review and adoption of a negative declaration and issued a negative declaration for the GGERP 2020 Update. For the purposes of GGERP Update 2023, DWR prepared an addendum to the negative declaration pursuant to CEQA Guidelines sections 15162, subdivision (b) and 15164, subdivision (b). In the addendum, DWR evaluated the changes to the 2012 GGERP under the GGERP Update 2023 and changes in surrounding circumstances (including legislative, regulatory, and market changes) and concluded that these changes would not cause any new significant environmental impacts that would require preparation of a subsequent negative declaration or an environmental impact report.

To show that current or future projects are consistent with the GGERP Update 2023 and that the cumulative impact analysis of DWR GHG emissions conducted for the GGERP Update 2023 analyzes and addresses the emissions for a proposed project, current and future projects relying on the GGERP Update 2023 must complete the following steps:

(1) Identify, quantify, and analyze the project's GHG emissions.

(2) Determine that construction emissions levels do not exceed the Extraordinary Construction Project threshold of either 25,000 $MTCO_2e$ for the entire construction phase of the project or 12,500 $MTCO_2e$ in any single year of construction.

(3) Incorporate into the design or implementation plan for the project all project-level GHG emissions reduction measures listed in the GGERP Update 2023 or explain why measures have not been incorporated or do not apply to the project.

(4) Determine that the project does not conflict with DWR's ability to implement any of the specific project GHG emissions reduction measures listed in Chapter 6 of the GGERP Update 20203

(5) Determine that the project would not add electricity demands to the State Water Project (SWP) system that could alter DWR's emissions reduction trajectory in such a way as to impede its ability to meet its emissions reduction goals. If implementation of the project would result in additional energy demands on the SWP system of 100 GWh/year or greater, the project must obtain a written confirmation from Power Operations Management stating that the Renewable Energy Procurement Plan will be updated to accommodate the additional load resulting from the proposed project at such time as the proposed project is ultimately implemented.

An assessment form is required to be prepared and submitted to assist DWR in evaluating whether a future project's GHG emissions are addressed by the environmental analysis in the GGERP Update 2023 and therefore are entitled to streamlined review. Any project generating GHG emissions that is not eligible to use the GGERP Update 2023 for cumulative impacts analyses of later projects would require additional environmental review to analyze the project-specific cumulative GHG emissions impacts.

The Proposed Project's emissions were estimated, and as shown in Table 3.5-9, the Proposed Project would not be considered an extraordinary project, as emissions generated would be less than 25,000 $MTCO_2e$ for the entire project and less than 12,500 $MTCO_2e$ in any single year of construction. Consistent with requirements 3, 4, and 5 above, an *Assessment Form for Consistency with GHG Emissions Reduction Plan* has been prepared and is presented in **Appendix D**, documenting that the Proposed Project has met each of the required elements.

Based on the analysis in the GGERP Update 2020 and the demonstration that the Proposed Project is consistent with the GGERP Update 2020 (as shown in the GGERP Consistency Determination Checklist in Appendix D), the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be ***less than significant***. Because this impact would be less than significant, Final SRGO Program EIR Mitigation Measures AIR-1, AIR-2, and AIR-3 would not be required. Nevertheless, these measures would be implemented by the Proposed Project, which would further reduce emissions.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project's ground-disturbing activities related to the potential to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR found GHG emissions from operations and maintenance activities to be less than significant. Though project specifics were unavailable, the level of activity, and therefore the level of emissions associated with operations and maintenance activities would be much lower when compared to construction activities, The EIR concluded that operational emissions are not likely to approach CARB's recommended thresholds and legislation that has established screening levels, the projects' GHG emissions would not be substantial and would not conflict with state and local planning efforts. Therefore, this operational impact was concluded to be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. As discussed earlier, trips associated with operations and maintenance activities would occur infrequently; these trips would have negligible GHG emissions and would not have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be ***less than significant***. Because this impact would be less than significant, no mitigation would be required.

Operation and maintenance activities associated with the Proposed Project would be consistent with those identified in the Final SRGO Program EIR (Section 3.4, "Air Quality and Greenhouse Gas Emissions," Section 3.4.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed constructed facilities and operation and maintenance impacts of the Proposed Project with regard to having a significant impact on the environment or conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

3.6 Biological Resources—Terrestrial

3.6.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new project-specific information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to terrestrial biological resources. The environmental setting and the evaluation of impacts on terrestrial biological resources are based on a review of existing, publicly available literature and data, as well as information from the Aquatic Resources Delineation Report and Biological Resource Technical Report prepared by Environmental Science Associates (ESA) for the Proposed Project (ESA 2025a, 2025b).

No comments addressing terrestrial biological resources were received in response to the Notice of Preparation (NOP). **See Appendix A** for NOP comment letters.

3.6.2 Environmental Setting

The following sections of the environmental setting describe the habitat types, primary functions of terrestrial and aquatic habitats, and sensitive biological resources (including special-status species, designated critical habitat, wetlands, and non-wetland waters) that are known to occur or have the potential to occur on the Proposed Project site. Information regarding fisheries is provided in Section 3.7, "Biological Resources–Aquatic." Background information was gathered from the variety of sources identified in the "Data Sources" section below. Information was collected regarding the distribution of natural communities/land cover types, and observations of flora and fauna were made by ESA biologists.

Data Sources

ESA reviewed publicly available data, subscription-based biological resource data, and Proposed Project site–specific information. The following data sources assisted in this literature review:

- Topographic maps (Gridley and surrounding eight quadrangles).
- Online soil maps from the Natural Resources Conservation Service of the U.S. Department of Agriculture.
- The California Wildlife Habitat Relationships database.
- The Vegetation Classification and Mapping Program of the California Department of Fish and Wildlife (CDFW).
- The CDFW California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the Gridley and eight surrounding quadrangles (California Department of Fish and Wildlife 2024).
- The California Native Plant Society (CNPS) online database of plant species documented on the Gridley and eight surrounding quadrangles (California Native Plant Society 2024).
- A U.S. Fish and Wildlife Service (USFWS) list of species that may occur in the vicinity of the Proposed Project site (U.S. Fish and Wildlife Service 2025).

The CNDDB and CNPS lists include special-status species documented on the following nine quadrangles: West of Biggs, Biggs, Palermo, Pennington, Gridley, Honcut, Sutter Buttes, Sutter, and Yuba City.

Existing Conditions for Terrestrial Biological Resources on the Proposed Project Site

The following habitat types are present on the Proposed Project site: annual grassland, riparian forest, riverine, agriculture/cropland, disturbed, and developed/urban. Table 3 in **Appendix E** summarizes the habitat types by acreage. Habitat types on the Proposed Project site are presented in **Figure 3.6-1**.[1] Commonly occurring wildlife are identified for each habitat type. Appendix E provides complete lists of plant and wildlife species identified during surveys, identifies plants observed on the Proposed Project site that are considered invasive by the California Invasive Plant Council, and provides representative photographs of habitat types.

Annual Grassland

A total of 1.57 acres of annual grassland occurs primarily along the levee and levee roads, but also occasionally near the riverbank slopes and on the understory floor of the riparian forest areas of the Proposed Project site. Dominant vegetation includes foxtail barley (*Hordeum murinum*), slim oat (*Avena barbata*), prickly lettuce (*Lactuca serriola*), ripgut brome (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*). Commonly occurring wildlife species typically associated with annual grassland habitat include mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), California ground squirrel (*Otospermophilus beecheyi*), and black-tailed jackrabbit (*Lepus californicus*).

Riparian Forest

Within the Proposed Project site, a total of 1.45 acres of riparian forest occurs along both banks of the Feather River. Common overstory vegetation includes valley oak (*Quercus lobata*), narrow-leaved willow (*Salix exigua*), and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Common understory vegetation includes box elder (*Acer negundo*), Himalayan blackberry (*Rubus armeniacus*), western poison oak (*Toxicodendron diversilobum*), and wild oat (*Avena fatua*). Commonly occurring wildlife typically associated with riparian forest habitat includes California vole (*Microtus californicus*), blue-headed grosbeak (*Pheucticus melanocephalus*), lesser goldfinch (*Spinus psaltria*), and American goldfinch (*S. tristis*).

[1] Habitat mapping notes: The legend in Figure 3.6-1 includes a habitat type labeled "Riverine and Lacustrine," which was pulled from CDFW's vegetation classification and mapping. However, of these two habitat types, only riverine habitat exists within the Proposed Project site. One lacustrine feature is located east of the Feather River on the Ramara Farms LLC property, but it is outside of the Proposed Project site and will not be discussed in this section.

"Fresh Emergent Wetland" and "Eucalyptus" habitat types are labeled in the legend and both fresh emergent wetland and eucalyptus habitats are mapped in Figure 3.6-1. However, no potentially jurisdictional wetlands or eucalyptus groves are present within the Proposed Project site and they will not be discussed in this section.



SOURCE: Esri, 2025; CDFW, 2024; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 3.6-1
Habitats

ESA

Riverine

Within the Proposed Project site, a total of 7.22 acres of area is mapped as riverine. Riverine habitat exists within the Feather River. The reach of river upstream of the Sunset Weir is currently backwatered and exhibits slough-like conditions that persist for miles upstream. The weir's rock barrier is within the Feather River adjacent to the Sunset Pump Station and would be removed as a component of the Proposed Project. Vegetation observed along the margins of the Feather River within riprap includes Baltic rush (*Juncus balticus*), toad rush (*J. bufonius*), and common rush (*J. effusus*). Commonly occurring terrestrial wildlife typically associated with riverine habitat includes great egret (*Ardea alba*), black phoebe (*Sayornis nigricans*), belted kingfisher (*Megaceryle alcyon*), North American river otter (*Lontra canadensis*), and American beaver (*Castor canadensis*).

Agriculture/Cropland

Within the Proposed Project site, there is a total of 4.39 acres of agriculture/cropland. Agricultural properties, consisting primarily of walnut orchards, compose most of the Proposed Project site. The Proposed Project would require equipment and vehicles to drive through the agricultural land to access the pumps to proceed with their improvements. Commonly occurring wildlife typically associated with agricultural lands includes American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), white-crowned sparrow (*Zonotrichia leucophrys*), and deer mice (*Peromyscus* sp.).

Disturbed

Within the Proposed Project site, a total of 3.41 acres is mapped as disturbed. Disturbed areas on the Proposed Project site include graded levees along the Feather River and the dirt access roads within the agricultural land. The area is mostly vegetated, but vegetation is sparse in pockets where the soil is extremely rocky (from cobbles and large gravels that were presumably placed intentionally to serve as levee bank protection). Dominant vegetation includes sow thistle (*Sonchus intermedia*), flax-tail horseweed (*Erigeron bonariensis*), Johnsongrass (*Sorghum halepense*), puncture vine (*Tribulus terrestris*), and shortpod mustard (*Hirschfeldia incana*). These disturbed areas would be staging areas for the Proposed Project. Some commonly occurring wildlife species typically associated with disturbed areas include raccoon (*Procyon lotor*), California towhee (*Melozone crissalis*), and western kingbird (*Tyrannus verticalis).*

Developed/Urban

Within the Proposed Project site, a total of 1.10 acres is mapped as developed/urban. Developed areas within the Proposed Project site include the Sunset Pump Station and the developed area near the pump station. The Proposed Project's construction activities in the developed areas include replacing and upgrading the existing Sunset Pump Station. Dominant vegetation observed in developed areas included Bermuda grass. Commonly occurring wildlife species observed in developed areas include mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), and California scrub-jay (*Aphelocoma californica*).

Aquatic Resources

Wetlands are ecologically complex habitats that support a variety of plant and animal life. In a jurisdictional sense, the U.S. government defines "wetlands" in Section 404 of the Clean Water Act (CWA) as "areas that are inundated or saturated by surface or ground water at a frequency and duration

sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (Code of Federal Regulations [CFR] Title 33, Section 328.3[b] [33 CFR Section 328.3(b)] and 40 CFR Section 230.3). The potentially jurisdictional waters of the United States within the Proposed Project site are limited to the riverine habitat present in the Feather River. No potentially jurisdictional wetlands were observed on the Proposed Project site. The areas of riverine habitat on the site are depicted on aquatic resources maps (**Figures 3.6-2a** to **3.6-2f**). Based on the aquatic resource delineation report, the Proposed Project site includes 13.47 acres and 2,737 linear feet of riverine habitat (Environmental Science Associates 2025a).

Special-Status Species

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. Appendix E presents a comprehensive list of special-status plant and wildlife species that were considered in the analysis. The list includes the common and scientific names for each species, regulatory status (federal, State, local, California Rare Plant Rank [CRPR]), habitat requirements, the identification period, and a discussion of the potential for occurrence on the Proposed Project site. The potential for occurrence was based on the following categories.

- **Absent**: The species' required habitat is lacking within the Proposed Project site or potentially occurring plants were not observed during the evident and identifiable season.
- **Low**: The species' required habitat either does not occur or is of very low quality, such that no observation has occurred on or near the Proposed Project site.
- **Moderate**: The species' required habitat occurs within the Proposed Project site and there are known occurrences nearby, but there are no recorded observations within the site.
- **High**: The species is very likely to occur within the Proposed Project site or has been documented in the vicinity and suitable habitat is present within the Proposed Project site.
- **Present**: The species has been observed within the Proposed Project site or immediately adjacent to the site and suitable habitat is present within the Proposed Project site.

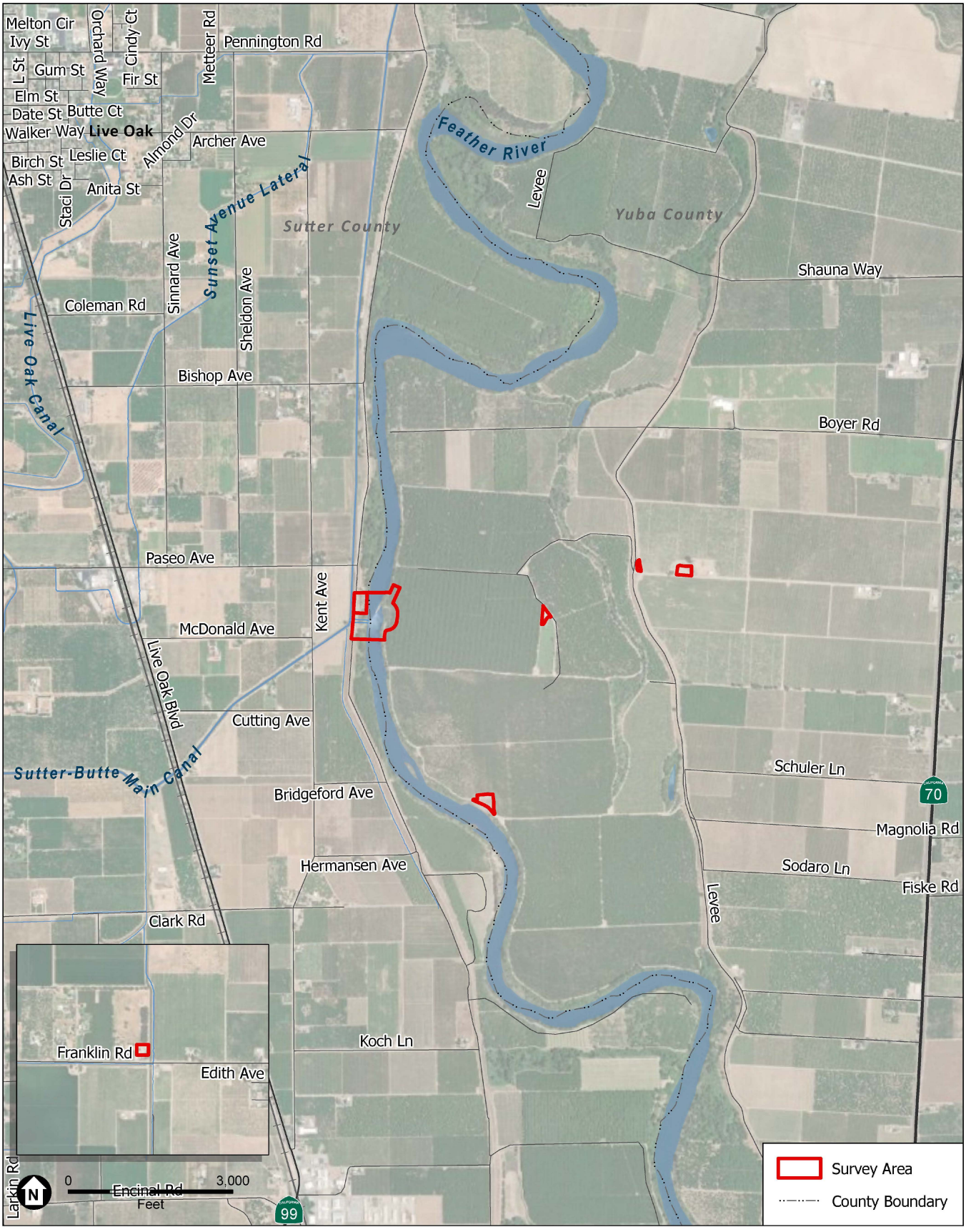
Species that are not expected to occur within the Proposed Project site (with a Low or Absent determination) are excluded from the discussion below. (See Table B-1 in Appendix E.)

Federally Listed and State-Listed Plants

No federally listed or State-listed plant species have the potential to occur on the Proposed Project site.

Non-listed Special-Status Plants

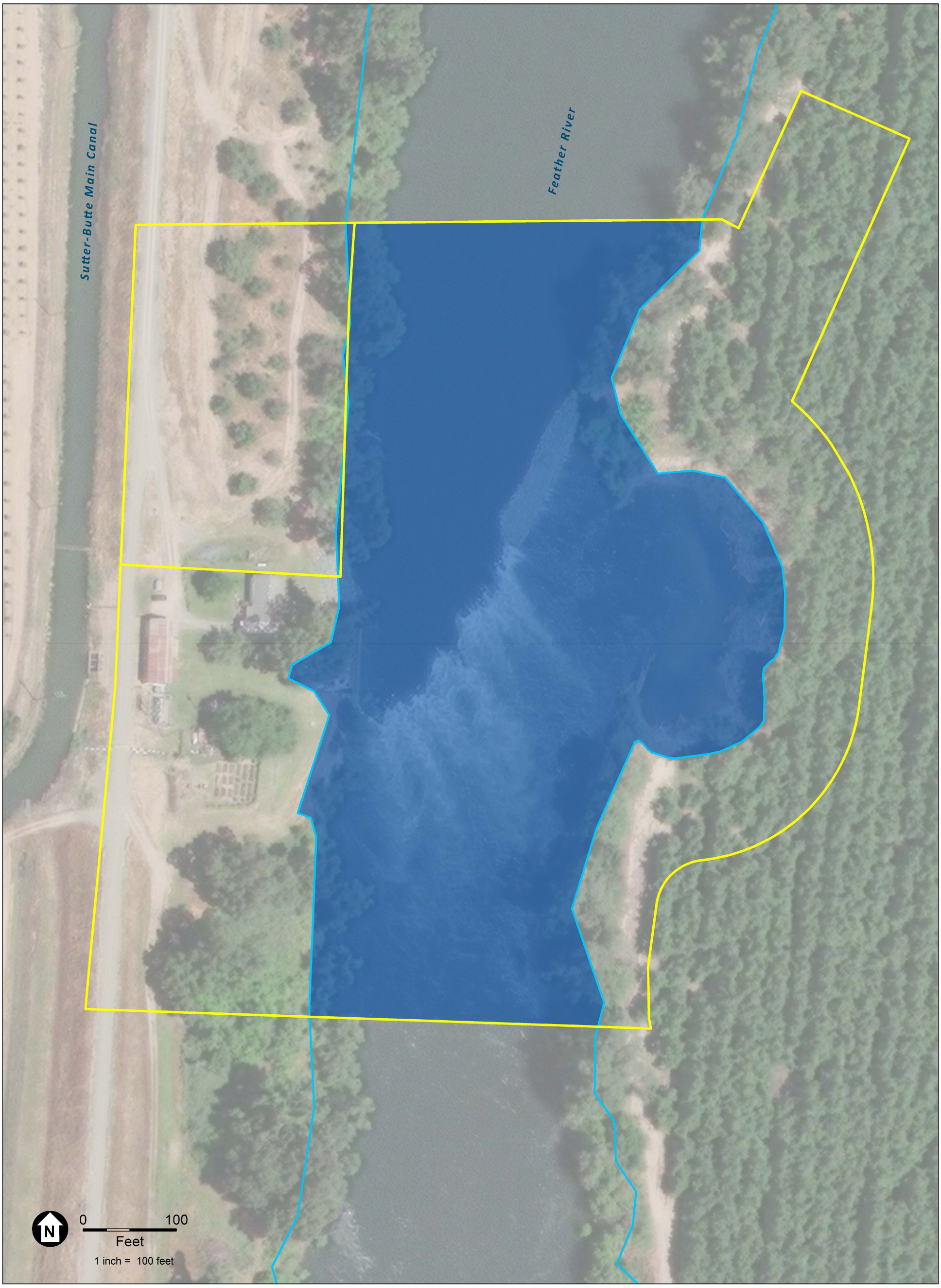
Marginal habitat is present for several non-listed special-status plant species: heartscale (*Atriplex cordulata* var. *cordulata*), spicate calycadenia (*Calycadenia spicata*), pappose tarplant (*Centromadia parryi* ssp. *parryi*), recurved larkspur (*Delphinium hesperium* var. *recurvatum*), Colusa layia (*Layia septentrionalis*), veiny monardella (*Monardella douglasii* ssp. *venosa*), and Sanford's arrowhead (*Sagittaria sanfordii*). None of these plants were observed on the Proposed Project site during the reconnaissance surveys, and the potential for them to occur in the grassland areas and along the bank of the Feather River is low because the grassland habitat consists mostly of non-native ruderal plant species.



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 3.6-2a
Delineated Aquatic Resources Survey Area



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Survey Area (21.14 acres)

OHWM

Waters (7.22 acres)

Perennial Stream (7.22 acres)

Figure 3.6-2b
Delineated Aquatic Resources

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 11/7/2025



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Survey Area (21.14 acres)
OHWM

Figure 3.6-2c
Delineated Aquatic Resources

Coordinate System: NAD 1983 State Plane
California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 11/7/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (21.14 acres)

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 3.6-2d
Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 11/7/2025



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Survey Area (21.14 acres)

Figure 3.6-2e
Delineated Aquatic Resources

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 11/7/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (21.14 acres)

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 3.6-2f
Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 11/7/2025

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Federally Listed and State-Listed Wildlife

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)* is federally listed as threatened. This species is completely dependent on elderberry shrubs (*Sambucus caerulea* or *S. mexicana*) for all stages of its life cycle and is generally associated with riparian habitats; it is restricted to the Central Valley. The valley elderberry longhorn beetle is threatened by loss and fragmentation of riparian habitat and by predation and displacement by the invasive Argentine ant (*Linepithema humile*).

The life history of the valley elderberry longhorn beetle is not well known. Adult beetles are active from March to June, which is their assumed breeding season. Adults are known to lay eggs in crevices within the bark of elderberry plants. Larvae hatch days later and bore into the stem of the elderberry shrubs where they feed on the pith. Larvae pupate inside the stem and emerge as adults in the spring. Larvae cut an emergence/exit hole through the wood and bark of the elderberry plant. Adults can fly between elderberry plants. Evidence of use by valley elderberry longhorn beetle is more commonly observed for clumps of elderberry bushes rather than isolated bushes.

The valley elderberry longhorn beetle framework recommends additional analysis of elderberry shrubs within 165 feet (approximately 50 meters) of a project site (U.S. Fish and Wildlife Service 2017). In total, 13 elderberry shrubs were observed on or within 165 feet of the Proposed Project site. These shrubs may be occupied by valley elderberry longhorn beetles.

Northwestern Pond Turtle

In July 2012, the Center for Biological Diversity petitioned USFWS to list the western pond turtle (*Actinemys marmorata*) as threatened or endangered under the FESA (United States Code [USC] Title 16, Sections 1531–1543 [16 USC Sections 1531–1543]). On April 10, 2015, the 90-day finding was published, stating that the petition presented substantial scientific or commercial information indicating that listing may be warranted for the western pond turtle (80 *Federal Register* 19262–19263). The western pond turtle was subsequently split into two separate species, the northwestern pond turtle (*Actinemys marmorata*) and the southwestern pond turtle (*A. pallida*). On September 29, 2023, USFWS proposed listing the northwestern pond turtle for federal protection under FESA. The northwestern pond turtle is also a California species of special concern.

Northwestern pond turtles are semi-aquatic, having both terrestrial and aquatic life history phases. They are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites, such as logs or river and creek banks. Suitable aquatic habitat typically has a muddy or rocky bottom and typically has emergent aquatic vegetation for cover. Northwestern pond turtles nest and overwinter in areas of sparse vegetation comprising grassland and forbs with less than 10 percent slopes, less than 492 feet from aquatic habitat (Rosenberg et al. 2009).

Nesting occurs in upland terrestrial habitat, and hatchings, juveniles, and adults use both terrestrial and aquatic habitat. The amount of time spent on land varies by location and aquatic habitat type. Terrestrial environments are required for nesting, overwintering and aestivation (warm-season dormancy), basking, and movement/dispersal. Aquatic environments are required for breeding, feeding, overwintering and sheltering, basking, and movement/dispersal. The species inhabits both perennial and intermittent bodies

of water throughout its range. Some are flowing/lotic, such as streams, rivers, and irrigation ditches, while others are not flowing/lentic, such as ponds, lakes, and reservoirs.

Females generally lay eggs from May through July. Nests are excavated by females, with nest completion taking anywhere from 2 hours to more than 10 hours. Females excavate nests 3–500 meters from water on somewhat compacted, dry soils. However, soils need to be loose enough to allow nest excavation, and disturbance of the upland areas needs to be infrequent so that nesting females are not discouraged from visiting those upland areas. Nests are shallow and generally occur 9–12 centimeters below the surface. Clutch size for western pond turtles varies from one to 13 eggs, depending on the size of the female (U.S. Fish and Wildlife Service 2023).

The Feather River is suitable aquatic habitat for northwestern pond turtle. The Proposed Project site overlaps the Feather River at the Sunset Weir rock barrier and the scour pond. Northwestern pond turtles have the potential to occur within the Proposed Project site in the Feather River at these locations. The upland areas are considered only marginal habitat for the species because they consist of riparian forest, compacted fill of dirt roads, and orchards. The compacted fill is not suitable nesting upland habitat for northwestern pond turtles.

Bald Eagle

Bald eagle (*Haliaetus leucocephalus*) is a State-listed endangered species and a State fully protected species. The species is also federally protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Bald eagles occupy areas around large bodies of water or free-flowing rivers with abundant fish, using trees and snags for perches. The species occasionally hunts displaced rodents in flooded fields and feeds on carrion. Preferred perches are high in large, stout trees, on snags or broken-topped trees, or on rocks near water. Bald eagles roost communally in winter, typically in dense, sheltered, or remote conifer stands. They nest in large, old-growth, or dominant live trees with open branch work, especially ponderosa pine (*Pinus ponderosa*). They nest most frequently in stands with less than 40 percent canopy, but usually with some foliage shading the nest (Zeiner et al. 1990a). Bald eagles often choose the largest tree in a stand on which to build a stick platform nest. Nest tree selection is highly dependent on tree height and size, and the nest is usually located near a permanent water source.

The Feather River provides suitable foraging habitat for bald eagles to hunt for fish. Although there are some tall trees in the riparian forest, none of the trees on the Proposed Project site are large or tall enough for a bald eagle to nest on them.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a candidate species for listing as threatened under the California Endangered Species Act (CESA) after the California Fish and Game Commission accepted a petition to list the species on October 10, 2024. The burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico and east to Texas and Louisiana. Although burrowing owls are migratory in certain areas of their range, these owls are predominantly non-migratory in California. Burrowing owls generally inhabit gently sloping areas, characterized by low, sparse vegetation (Shaffer et al. 2023). The breeding season for burrowing owls extends from March to August, peaking in

April and May (Zeiner et al. 1990b). Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. Burrowing owls are also known to use artificial/alternative burrows including pipes, culverts, and nest boxes.

No ground squirrel activity was observed and no burrows suitable for occupation by burrowing owls were observed during the surveys on the Proposed Project site. Only burrows smaller than 4 inches in diameter were observed in the orchards. Burrowing owls may occur as transients on or near the Proposed Project site while foraging in the annual grassland areas.

Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally listed threatened and a State-listed endangered species. Western yellow-billed cuckoos nest along broad, lower flood bottoms of larger river systems in dense riparian vegetation consisting of willow and cottonwood, with a lower story of blackberry, nettles, or wild grape. In California, this species nests in scattered, isolated areas within the Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys. Suitable willow thicket habitat is present within the riparian edge of the Feather River. However, there have been no documented observations of western yellow-billed cuckoo in the region since the 1980s.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a State-listed threatened species. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Cornell Lab of Ornithology 2025a). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner et al. 1990c). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually close to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in September or October (Zeiner et al. 1990c).

The trees in the riparian forest provide suitable nesting habitat for the species. The annual grassland portions of the Proposed Project site are narrow and small. They do not constitute suitable foraging habitat for Swainson's hawk.

Non-listed Special-Status Wildlife

Bank Swallow

Bank swallow (*Riparia riparia)* is a California species of special concern. Bank swallows typically set up nesting colonies in holes along rivers, streams, ocean coasts, and reservoirs. A nesting colony may consist of 10–2,000 nests. Historically, bank swallows were more commonly found around natural bluffs or eroding streamside banks; however, now they may nest in human-made sites, such as sand and gravel quarries or road cuts. They typically forage in open spaces and avoid areas with too much tree cover (Cornell Lab of Ornithology 2025b). A bank swallow nesting colony was observed on the Feather River bank during summer 2024 outside of but near the Proposed Project site.

Western Red Bat

Western red bat (*Lasiurus blossevillii)* is a California species of special concern. Western red bats are locally common in certain areas of California. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. The species feeds over a wide variety of habitats: grasslands, shrublands, open woodlands and forests, and croplands. They roost primarily in trees and less often in shrubs. Roost sites are often in edge habitats adjacent to streams, fields, or urban areas. Family groups roost together and nursery colonies are found with many females and their young (Zeiner et al. 1990d). The riparian forest may provide suitable roost sites for western red bat.

Pallid Bat

Pallid bat (*Antrozous pallidus*) is a California species of special concern. Pallid bats occur throughout California except in parts of the high Sierra and the northwestern corner of the state (Zeiner et al. 1990e). The pallid bat inhabits a variety of habitats, such as grasslands, shrublands, woodlands, and forests; however, it is most abundant in open, dry habitats with rocky areas for roosting. Pallid bats roost alone, in small groups, or gregariously (Western Bat Working Group 2005). Roosts include caves, crevices in rocky outcrops and cliffs, mines, trees, and various human-made structures (e.g., bridges, barns, porches). Roosts generally have unobstructed entrances/exits and are high above the ground, warm, and inaccessible to terrestrial predators. Year-to-year and night-to-night roost reuse is common; however, bats may switch day roosts on a daily and seasonal basis. The riparian forest may provide suitable roost sites for pallid bat.

Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern. Townsend's big-eared bats occur throughout California in all but subalpine and alpine habitats. They can be observed year-round across their known range. Over time the species has become uncommon; however, it is most abundant in mesic habitats. These bats roost in caves, mines, tunnels, buildings, or other human-made structures. They may use separate sites depending on the time of day, for hibernation roosts, or maternity roosts. Maternity roosts are in the warmest areas within the species' preferred roosting locations (Zeiner et al. 1990f). The pump station and the buildings near the Yuba City staging area are the only potential structures on the Proposed Project site that may provide suitable roost sites for Townsend's big-eared bats. They may forage within the riparian forest.

Western Mastiff Bat

Western mastiff bat (*Eumops perotis*) is a California species of special concern. Western mastiff bats reside across California along the Coast Ranges, in the Sacramento and San Joaquin valleys, and in the Sierra Nevada down to Southern California. They occur in open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, and desert scrub. They can also be found in urban areas. Western mastiff bats occupy crevices in cliff faces, tall buildings, trees, and tunnels for roosting. Nursery roosts are typically in tight rock crevices or crevices in buildings (Zeiner et al. 1990g). The riparian forest may provide suitable roost sites for western mastiff bats.

3.6.3 Regulatory Setting

Federal and State regulations discussed in Section 3.5.3, "Regulatory Setting," of Section 3.5, "Biological Resources–Terrestrial," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are

new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR.

Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) applies to projects that may result in the take of a fish or wildlife species that is federally listed as threatened or endangered. The law also applies to actions that are proposed to be authorized, funded, or undertaken that may jeopardize the continued existence of a federally listed wildlife or plant species, or that may adversely modify or destroy designated and occupied critical habitat for such species. "Candidate" species are those undergoing a status review to determine whether they warrant listing as endangered or threatened under the FESA. Because these "candidates" are not formally listed, they do not have formal protections against take.

Section 9 of the FESA protects listed wildlife species from "take," which is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct" (16 USC Section 1532[19]). Federal regulations define "harm" as "an act which actually kills or injures wildlife." This definition includes significant habitat modification or degradation that results—or is reasonably expected to result—in death or injury to wildlife by substantially impairing essential behavioral patterns, including breeding, feeding, sheltering, spawning, rearing, and migrating (50 CFR Sections 17.3 and 222.102). "Harass" is defined similarly broadly.

If a project could result in take of a federally listed species, either a habitat conservation plan (HCP) and incidental take permit under FESA Section 10(a) or a federal interagency consultation under FESA Section 7 is required. Under the FESA, USFWS has jurisdiction over all terrestrial wildlife and plant species, as well as freshwater fish species and a few marine mammals (such as the California sea otter); the National Marine Fisheries Service has jurisdiction over anadromous fish species and more pelagic marine mammals (e.g., sea lions, whales, and dolphins).

Under FESA Section 10, an HCP and incidental take permit are the mechanism for authorizing take of listed species by projects authorized, funded, or carried out by a state or local government agency. The FESA Section 7 process, which includes a biological opinion and accompanying incidental take statement, is the mechanism for authorizing take of listed species for actions authorized, funded, or carried out by a federal agency. In addition, regardless of whether take may occur, a federal interagency consultation under FESA Section 7 is required if a federal agency action "may affect" a federally listed species or designated critical habitat.

Besides listing species within its jurisdiction as threatened or endangered, issuing incidental take permits, and conducting interagency consultations, USFWS designates "critical habitat" for threatened and endangered species, which the FESA defines as follows (16 USC Section 1532[5][A]):

(1) Specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to a species' conservation, and those features may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation of the species.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC Section 651 et seq.), as amended in 1964, was enacted to protect fish and wildlife when federal actions control or modify a natural stream or body of water. The law requires federal agencies to consider the effect of water resource–related projects on fish and wildlife resources. The agencies must consult and coordinate with USFWS and state fish and game agencies to identify ways to prevent the loss of and damage to fish and wildlife resources, and to further develop and improve these resources.

Executive Order 13112: Invasive Species

Executive Order 13112 (February 3, 1999) directs federal agencies to prevent and control the introduction and spread of invasive non-native species in a cost-effective, environmentally sound manner to minimize their effects on economic, ecological, and human health. The executive order was intended to build on existing laws, such as the National Environmental Policy Act, the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Lacey Act, the Plant Pest Act, the federal Noxious Weed Act, and the FESA.

Noxious Weed Act and Code of Federal Regulations Title 7, Part 360

The federal Noxious Weed Act (7 USC Sections 2801–2813) and the Noxious Weed Regulations in 7 CFR Part 360 are concerned primarily with the introduction of federally designated noxious weed plants or seeds across the borders of the United States. The Noxious Weed Act also regulates the interstate movement of designated noxious weeds under the U.S. Department of Agriculture's permit system.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act implements a series of international treaties to protect migratory birds. This law authorizes the Secretary of the Interior to regulate the taking of migratory birds, providing that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 USC Section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in the direct loss of birds, nests, or eggs. The current list of species protected by the Migratory Bird Treaty Act was published in the *Federal Register* on November 1, 2013 (Volume 78, page 65844). In addition to the Migratory Bird Treaty Act, Fish and Game Code Section 3513 states:

> *It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.) before January 1, 2017, any additional migratory nongame bird that may be designated in that federal act after that date, or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act before January 1, 2017, or subsequent rules or regulations adopted pursuant to that federal act, unless those rules or regulations are inconsistent with this code.*

Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act (16 USC Sections 668–668c) prohibits the take of bald and golden eagles, including their parts, nests, or eggs, without a permit issued by the Secretary of the Interior. The law defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." In addition to immediate impacts, this definition covers the impacts of human-induced alterations around a previously used nest site when eagles are not present, if, upon the eagle's return, such alterations agitate or bother the eagle enough to interfere with or interrupt normal breeding, feeding, or sheltering habits, and cause injury, death, or nest abandonment.

Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds

Executive Order 13186 (January 10, 2001) directs federal agencies that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement a memorandum of understanding with USFWS to promote the conservation of migratory bird populations. The memorandum of understanding should include implementation actions and reporting procedures that would be followed through each agency's formal planning process, such as resource management plans and fisheries management plans.

Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation

The purpose of Executive Order 13443 (August 16, 2007) is to direct federal agencies maintaining programs and activities that measurably affect public land management, outdoor recreation, and wildlife management to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Clean Water Act, Section 404

The federal CWA was enacted as an amendment to the Federal Water Pollution Control Act of 1948, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. CWA Section 404 requires that applicants obtain a permit from the U.S. Army Corps of Engineers (USACE) for any discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity.

"Waters of the United States" are areas subject to federal jurisdiction pursuant to CWA Section 404. Waters of the United States are typically divided into two types: wetlands and other waters of the United States. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR Section 328.3[c][1]; 40 CFR Section 120.2[c][1]). To be subject to federal jurisdiction, a wetland must normally support hydrophytic vegetation (plants growing in water or wet soils), hydric soils, and wetland hydrology. Other waters of the United States are seasonal or perennial waterbodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for the three wetland parameters (33 CFR Section 328.4).

Clean Water Act, Section 401

Under CWA Section 401, projects that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where

the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require an approval by a federal agency, such as the issuance of a Section 404 permit) must also comply with CWA Section 401. (See the discussion of the Porter-Cologne Water Quality Control Act [Porter-Cologne Act] below for more details.)

State

California Endangered Species Act

The CESA (Sections 2050 through 2115.5 of the California Fish and Game Code) addresses threats to native fish, wildlife, and plant species. The CESA states that these species are in danger of or threatened with extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors. These species are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern (Fish and Game Code Section 2051).

The California Fish and Game Code (Sections 2062 and 2067, respectively) defines "endangered" and "threatened" species as follows:

- *Endangered species:* A native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
- *Threatened species:* A native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that, though not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.

The California Fish and Game Commission is responsible for listing species under the CESA; CDFW implements the CESA, enforcing it and issuing permits.

Similar to the FESA, the CESA (in California Fish and Game Code Section 2080) strictly prohibits the "take" and "possession," among other things, of any California native species or subspecies designated (i.e., listed) as an endangered or threatened or endangered fish, wildlife, or plant species or species, except as authorized under the Fish and Game Code. "Take" for purposes of the CESA is defined in Section 86 of the Fish and Game Code to mean "hunt, pursue, catch, capture, or kill, or attempt to do so." In contrast with the FESA, the Fish and Game Code's definition of take does not include "harm" or "harass." As a result, the threshold for take under the CESA may, in some cases, be higher than that under the FESA. In contrast with the FESA, the take prohibition under the CESA applies to candidate species pursuant to Fish and Game Code Section 2085. Under Section 2081 of the Fish and Game Code, an incidental take permit from CDFW is required for projects that could result in the take of a species that is State-listed as threatened or endangered or that is a candidate for listing. For restoration projects, CDFW may also authorize take of CESA-listed species under the Restoration Management Permit process.

The Fish and Game Code includes several exceptions to CESA take prohibition and permitting mechanisms for CDFW to authorize otherwise prohibited take and possession of species and subspecies protected by the CESA. For example, in accordance with Fish and Game Code Section 2081(a), CDFW

may authorize otherwise prohibited take and possession, by permit or memorandum of understanding, to certain entities for scientific, educational, or management purposes; and under Section 2081(b), CDFW may authorize, by permit, take that is incidental to otherwise lawful activity, subject to certain criteria prescribed by the statute. Finally, for species protected under both the CESA and the FESA, CDFW may determine that a federal incidental take permit or statement is consistent with the CESA; in such a case, a consistency determination is issued and no further authorization is necessary under the Fish and Game Code (Section 2080.1).

Fish and Game Code Designated Fully Protected Species

Fish and Game Code Sections 3511, 4700, 5050, and 5515 designate several birds, mammals, reptiles and amphibians, and fish, respectively, as fully protected species. Take and possession are prohibited under the Fish and Game Code and may not be authorized by CDFW, except in limited circumstances. For example, CDFW may authorize take of a fully protected species by permit for necessary scientific research, including efforts to recover the species.

California Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code codify the Native Plant Protection Act (NPPA) of 1977, which is intended to preserve, protect, and enhance endangered, threatened, or rare native plants in California. Under Section 1901, a species is "endangered" when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is "rare" when, though not threatened with immediate extinction, it is present in such small numbers throughout its range that it may become endangered if its environment worsens.

The California Fish and Game Commission exercises authority to designate native plants as rare under the NPPA and, for endangered plants, both under the NPPA and the CESA. As with the CESA, CDFW enforces the NPPA and exercises related permitting authority by regulation, as well as through complementary regulations governing CDFW's incidental take permitting program under the CESA (California Code of Regulations [CCR] Title 14, Sections 783.0 through 783.8 [14 CCR Sections 783.0 through 783.8] and Section 786.9). Also, as with the CESA, take and possession (among other things) of native rare and endangered plants protected under the NPPA are prohibited, except as authorized by law. There are a few exceptions to the take prohibition in the NPPA, including for agricultural and nursery operations and emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

The relationship between the CESA and the NPPA is complex and subject to legal debate. Generally speaking, a CESA Section 2081 permit for incidental take of listed threatened and endangered plants may be required, with certain exceptions (Fish and Game Code, Section 1907[a]). Similarly, regulations in 14 CCR Section 786.9 allow CDFW to authorize the take of plants that are listed as rare pursuant to the NPPA, if that take is incidental to otherwise lawful activities and if certain conditions are met.

CDFW maintains the Special Vascular Plants, Bryophytes, and Lichens List for California (California Department of Fish and Wildlife 2025) as part of the CNDDB. The list is updated quarterly and is reviewed and updated by rare-plant status review groups managed jointly by CDFW and CNPS. Plant species, subspecies, or varieties are assigned a California Rare Plant Rank, or CRPR, based on their level of endangerment. Plants with CRPR 1A are presumed extirpated in California and either rare or extinct

elsewhere. Plants with a CRPR 1B rank are rare, threatened, or endangered in California or elsewhere. Plants with a 2A rank are presumed extirpated in California but common elsewhere. Plants with a 2B rank are rare, threatened, or endangered in California but more common elsewhere.

For purposes of this analysis, plants with a rank of 1A, 1B, 2A, or 2B are considered rare plants under CEQA Section 15380. For plants with a CRPR 3 rank, CDFW and CNPS lack sufficient information to assign them another code, and CRPR 4 indicates limited distribution of plants that may become rare in the future. Plants with CRPR 3 and 4 ranks may be reviewed on a case-by-case basis to determine whether they should be considered rare plants under CEQA Section 15380.

Fish and Game Code Safe Harbor Agreements

Fish and Game Code Sections 2089.2 through 2089.26 allow CDFW to authorize incidental take of a species listed as endangered, threatened, candidate, or a rare plant, through a safe harbor agreement if implementation of the agreement is reasonably expected to provide a net conservation benefit to the species, among other provisions. Safe harbor agreements are intended to encourage landowners to voluntarily manage their lands to benefit CESA-listed species without subjecting those landowners to additional regulatory restrictions as a result of their conservation efforts. In addition, at the end of the agreement period, participants may return the enrolled property to the baseline conditions that existed at the beginning of the safe harbor agreement.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act (Fish and Game Code Sections 2800–2835) details the State's policies on the conservation, protection, restoration, and enhancement of California's natural resources and ecosystems. This law identifies conservation planning as an officially recognized policy that can be used to eliminate conflicts between protection of the state's natural resources and the need for growth and development. The law also promotes conservation planning to enhance coordination and cooperation among private interests, agencies, and landowners, and aid in multispecies, multihabitat management. Where CDFW approves a natural community conservation plan, it may authorize by permit the otherwise prohibited taking of any covered species whose conservation and management are provided for in the plan, including CESA-listed species and fully protected species. The Natural Community Conservation Planning Act provides an alternative means for CDFW to authorize the incidental take of species that are listed as threatened or endangered or are candidates for listing under CESA.

California Fish and Game Code Section 1600

Fish and Game Code Section 1602 states that it is unlawful to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and provides notification that the activity will not substantially adversely affect any existing fish or wildlife resources, the activity may commence. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, a streambed alteration agreement may be required, which would need to include reasonable measures necessary to protect the affected resource(s), before conducting the activity or activities described in the notification. (Fish and Game Code Section 1602.)

Sections 1600–1616 of the Fish and Game Code state that it is unlawful to do any of the following without first notifying CDFW:

- Substantially divert or obstruct the natural flow of the bed, channel, or bank of any river, stream, or lake.
- Substantially change the bed, channel, or bank of any river, stream, or lake.
- Use any material from the bed, channel, or bank of any river, stream, or lake.
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake in California.

With certain exceptions, a streambed alteration agreement must be obtained if CDFW determines that a project will conduct one or more of the above activities and is expected to result in substantial adverse effects on existing fish and wildlife resources. The streambed alteration agreement must include measures to protect fish and wildlife.

Porter-Cologne Water Quality Control Act

The State Water Board, through its nine regional water quality control boards (RWQCBs), regulates waters of the State through the Porter-Cologne Act. "Waters of the State" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The State Water Board and RWQCBs may exert jurisdiction over waters of the State regardless of federal jurisdictional status. The Porter-Cologne Act also charges the State Water Board and RWQCBs with establishing and protecting beneficial uses of waters of the State. These beneficial uses may include protection for uses of water that support terrestrial ecosystems, aquatic ecosystems, and habitat for special-status species. Along linear aquatic features, the Central Valley RWQCB generally considers its jurisdiction to extend to the ordinary high-water mark (i.e., the same areal extent over which USACE claims jurisdiction for aquatic features that are jointly waters of the United States under the CWA and waters of the State under the Porter-Cologne Act). Waters of the State that are determined to be jurisdictional under the Porter-Cologne Act would require, if affected, waste discharge permitting and/or a certification under CWA Section 401 (in the case of a required USACE CWA Section 404 permit) issued by the RWQCB. In unique circumstances where a project overlaps multiple RWQCB jurisdictions, the State Water Board would be responsible for the CWA Section 401 certification.

California Food and Agriculture Code

More than 30 different laws address the State's mandate to prevent the introduction and spread of injurious animal pests, plant diseases, and noxious weeds. These laws describe procedures and regulations related to the following topics:

- Plant quarantines.
- Regulation of noxious weed seed.
- Emergency pest eradications to protect agriculture.
- Pests as public nuisances.
- Vectors of infestation and infection.

- The sale, transport, and propagation of noxious weeds.
- The protection of native species and forests from weeds.

Most of these laws and their associated regulations (CCR Title 3) are enforced by the California Department of Food and Agriculture.

California Department of Food and Agriculture Integrated Pest Control Branch Programs

The Integrated Pest Control Branch of the California Department of Food and Agriculture conducts a wide range of pest management and eradication projects as part of the Plant Health and Pest Prevention Services Division's Pest Prevention Program. Assessments and fees are collected for some program activities and services. The branch cooperates with other State agencies, federal and county agencies, research institutions, agricultural industries, and other nongovernmental organizations.

California's Weed Management Area Program

"Weed management areas" are local organizations that bring together landowners and managers (federal, State, county, city, and private) in a county or multi-county geographic area to coordinate efforts and expertise against common invasive and noxious weed species. The weed management area functions under the authority of a mutually developed memorandum of understanding. It develops a strategic plan that helps to prioritize eradication, control, and containment projects, as well as other weed management area activities. The strategic plan also identifies what each partner contributes toward the overall cooperative nature of the weed management area. The program includes 48 weed management areas covering all 58 counties in California. The Proposed Project site falls within the Yolo weed management area.

Sections of the California Fish and Game Code Pertaining to Invasive and Noxious Plant Species

At least five laws and their associated regulations address or relate to invasive and noxious plant species. The applicable code sections include Fish and Game Code Sections 2080–2089, 2118, 2270–2272, 2300, 6400–6403, and 15000 et seq. The intent of these laws is to regulate the importation and transport of live wild animals and plants, restrict the placement of live aquatic animals or plants in State waters, and regulate the operation of aquaculture industries. CDFW is responsible for implementing these laws.

California Wetlands Conservation Policy

The California Wetlands Conservation Policy was adopted in 1993 (Executive Order W-59-93). The goal of this policy is to ensure no overall net loss of wetlands and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.

State Wildlife Action Plan

Each state develops a state wildlife action plan to serve as the comprehensive wildlife conservation strategy required for the receipt of federal funds through the State and Tribal Wildlife Grants program. California last updated its plan in 2015 (California Department of Fish and Wildlife 2015). The State Wildlife Action Plan provides a blueprint for the actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources. Implementation of this plan relies on

making important and helpful conservation information more accessible to resources managers and the public, and on developing lasting partnerships with a broad array of governments, agencies, organizations, businesses, and citizens.

Assembly Bill 1581: Conservation: Restoration Management Permit Act and California State Safe Harbor Agreement Program Act

On September 27, 2024, Governor Gavin Newsom signed the Restoration Management Permit Act (Assembly Bill 1581), adding Chapter 6.7 to the Fish and Game Code. Assembly Bill 1581 consolidated five of the most common CDFW authorizations typically needed for restoration projects into a single, streamlined permit called the Restoration Management Permit. This permit provides up to five separate CDFW authorizations in a single permit designed for beneficial management and restoration activities:

(1) Take of CESA threatened, endangered, or candidate species.

(2) Take of Fully Protected Species.

(3) Take of plant species designated as "rare" pursuant to the NPPA.

(4) Take of other species including mammals, birds, fish, amphibians, or reptiles.

(5) Authorization of impacts on rivers, lakes, and streams that would otherwise be subject to a Lake or Streambed Alteration Agreement.

Qualifying restoration projects under the Restoration Management Permit include management or propagation actions that have the primary purpose of restoring native fish, wildlife, plants, or their habitat and that would result in a substantial net benefit to any one or more of the following: (a) native fish; (b) native wildlife; (c) native plants; or (d) the habitat of native fish, native wildlife, or native plants.

Special-Status Species

Special-status species are legally protected under the CESA and FESA or other regulations or are considered sufficiently rare by the scientific community to qualify for such listing. These species fall into several categories:

(1) Species listed or proposed for federal listing as threatened or endangered under the FESA (50 CFR Sections 17.12 and 17.11 [listed plants and listed animals, respectively], and various notices in the *Federal Register* [proposed species]).

(2) Species that are candidates for possible future listing as threatened or endangered under the FESA (*Federal Register* Title 61, No. 40, February 28, 1996).

(3) Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 CCR Section 670.5).

(4) Plants listed as rare or endangered under the California NPPA (California Fish and Game Code Section 1900 et seq.).

(5) Animal species of special concern to CDFW.

(6) Animals fully protected under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

(7) Species that meet the definitions of "rare" and "endangered" under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as rare or endangered even if the species is not on one of the official lists (CEQA Guidelines Section 15380).

(8) Plants considered by CDFW and CNPS to be "rare, threatened or endangered in California" (CRPRs 1A, 1B, 2A, and 2B).[2]

Species recognized under these terms are collectively referred to as "special-status species."

Sensitive Natural Communities

"Sensitive natural communities" are communities identified by CDFW that are afforded special consideration under CEQA. These communities are native to California and are considered highly imperiled. All of the managed tule wetland and the riparian forest and riparian scrub on the Proposed Project site are considered sensitive natural communities by CDFW.

Regional and Local

Sutter County General Plan

The following goals in the Sutter County General Plan are applicable to the Proposed Project:

Goal ER 1: Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.

Goal ER 2: Conserve, protect, and enhance Sutter County's significant natural wetland and riparian habitats.

Goal ER 3: Conserve, protect, and enhance Sutter County's varied wildlife and vegetation resources.

Yuba County General Plan

The following policies in the Yuba County General Plan are applicable to the Proposed Project:

Policy NR5.1: New developments that could adversely affect special-status species habitat shall conduct a biological resources assessment and identify design solutions that avoid such adverse effect. If, after examining all feasible means to avoid impacts to special-status species habitat through project design, adverse effects cannot be avoided, then impacts shall be mitigated in accordance with guidance from the appropriate state or federal agency charged with the protection of the subject species, including pre-construction surveys conducted according to applicable standards and protocols, where necessary.

Policy NR5.4: New developments shall be located and designed to preserve and incorporate existing native vegetation to the maximum extent feasible. Fire safety standards may override consideration of retaining existing vegetation in certain circumstances.

Policy NR5.13: New developments that could adversely affect wildlife movement corridors shall conduct a biological assessment and avoid placing any temporary or permanent barriers within such corridors, if they are determined to exist on-site. Avoiding barriers to wildlife movement may be accomplished at the project or community plan level.

[2] CDFW works in collaboration with CNPS to maintain a list of plant species native to California that have low numbers or limited distribution, or that are otherwise threatened with extinction. These species are categorized by their rarity in the CRPR system. For further information about the CRPR system and the specific ranks, see "California Native Plant Protection Act" above.

Yuba-Sutter Regional Natural Community Conservation Plan/Habitat Conservation Plan

The Yuba-Sutter Natural Community Conservation Plan/HCP is a cooperative planning effort initiated by Yuba and Sutter counties in connection with improvements to State Routes 99 and 70 and future development in the area surrounding those highways. The planning area currently encompasses most of these two counties. The draft plan currently covers four different plant species and 15 wildlife species. Because the Yuba-Sutter Natural Community Conservation Plan/HCP is still in development, there are no requirements for compliance.

3.6.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to terrestrial biological resources is considered significant if the Proposed Project would do any of the following:

- 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 USFWS or CDFW.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by USFWS or CDFW.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, wetland, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

Issues Not Analyzed Further in this SEIR

Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. Because there is no adopted conservation plan with a jurisdiction overlapping the Proposed Project site, this issue is not considered further in the SEIR.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase

in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to terrestrial biological resources associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance activities (long-term, temporary).

The approach to assessing impacts on terrestrial biological resources was to review existing environmental studies, current data (see "Data Sources" in Section 3.6.2, "Environmental Setting," above), and modeling results conducted for the Proposed Project (see Section 3.11, "Hydrology and Water Quality"). From this work, lists of species that have the potential to occur on site were evaluated. In addition, field surveys of the Proposed Project site were conducted by ESA's qualified biologists in 2023 and 2024. These field surveys were used to delineate the extent of aquatic resources within the Proposed Project site and to evaluate existing habitat quality on the site and the potential for special-status plant and wildlife species to occur on the Proposed Project site or in the vicinity.

Impacts and Mitigation Measures

Table 3.6-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.6-1
SUMMARY OF IMPACT CONCLUSIONS—TERRESTRIAL BIOLOGICAL RESOURCES

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.6-1: Implementation of the Proposed Project could adversely affect habitat for special-status plant species.	LTS	LTSG/S
3.6-2: Implementation of the Proposed Project could adversely affect habitat for special-status wildlife species.	LTSG/S	LTSG/S

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.6-3: Implementation of the Proposed Project could result in adverse effects on riparian habitat or sensitive natural communities.	LTSG	LTSG
3.6-4: Implementation of the Proposed Project could result in adverse effects on State and federally protected wetlands through direct removal, hydrological interruption, or other means.	LTSG	LTSG/S
3.6-5: Implementation of the Proposed Project could interfere with the movement of native resident and migratory wildlife species.	LTSG/S	LTSG/S
3.6-6: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources.	LTSG/S	LTSG/S

Notes: LTS = less than significant; LTSG = less than significant with implementation of the general protection measures; LTSG/S = less than significant with implementation of the general protection measures and species protection measures

Source: Data compiled by Environmental Science Associates in 2025

Impact 3.6-1: Implementation of the Proposed Project could adversely affect habitat for special-status plant species. (Final SRGO Program EIR Impact 3.5-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These include potential impacts of construction activities for restoration projects on habitat for special-status plant species. The Final SRGO Program EIR identified General Protection Measures GPM-5, GPM-7, GPM-8, GPM-12, GPM-15, IWW-6, WQHM-4, VHDR-2, and VHDR-3 to reduce the impacts of construction activities on special-status plant species. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Additionally, the Final SRGO Program EIR found that restoration projects that could adversely affect habitat for special-status plant species would implement the following species protection measures, as applicable: SPM-1 through SPM-6, and PLANT-1 through PLANT-6. (See Table 1-8 in Chapter 1, "Introduction," of this Draft SEIR for species protection measure titles.) However, given the uncertainty about whether special-status plants could be avoided during construction, the Final SRGO Program EIR determined this impact to be significant and unavoidable (see Final SRGO Program EIR Section 3.5.4).

Related to the Proposed Project, the Final SRGO Program EIR evaluated the removal of smaller dams or legacy structures, placement of bioengineered stabilization materials, and installation of cofferdams. Also related to the Proposed Project, the Final SRGO Program EIR included grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and demobilization; stockpiling of construction materials; and disposal of excess materials. (See Final SRGO Program EIR Section 4.6.4.)

No federally listed or State-listed plant species have the potential to occur on the Proposed Project site. Marginal habitat is present for several non-listed special-status plant species: heartscale, spicate calycadenia, pappose tarplant, recurved larkspur, Colusa layia, veiny monardella, and Sanford's arrowhead. None of these plants were observed on the Proposed Project site during the reconnaissance surveys, and the potential for them to occur within the grassland areas and along the banks of the Feather

River is low because the grassland habitat consists mostly of non-native ruderal plant species. Therefore, this impact would be ***less than significant***.

Because the impact would be less than significant, the general protection measures and species protection measures are not applicable to the Proposed Project.

The impacts of construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to adverse effects on special-status plant habitat.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including potential effects on special-status plants. Maintenance of constructed facilities for restoration projects permitted under the Order, including restored habitats, is expected to have effects on special-status plants similar to those described above for Proposed Project construction. The magnitude and duration of these impacts would likely be reduced because the scale of equipment use and ground disturbance would be limited and spread out over months, years, or decades.

The Final SRGO Program EIR's analysis of constructed facilities and operations and maintenance of those facilities included all of the same general and species protection measures listed above under "Effects of Construction Activities" to reduce the impacts of operations and maintenance activities on special-status plants. However, given the uncertainty about whether impacts on special-status plants could be avoided during operations and maintenance of restoration sites, the Final SRGO Program EIR determined this impact to be significant and unavoidable. No mitigation measures were identified (see Final SRGO Program EIR Section 3.5.4).

The operations and maintenance activities under the Proposed Project would include maintaining the Sunset Pump Station, fish screens, and their related appurtenances. As with baseline conditions, bank retreat is an ongoing process on the Feather River, and sediment and debris may accumulate near the Sunset Pump Station and fish screens; hence, regular debris removal would occur to ensure that the pump station functions as designed. The potential for special-status riparian plants to colonize the portion of the Proposed Project site near the Sunset Pump Station after removal of the weir would be minimal because these areas would be covered in rock slope protection.

To address potential impacts on special-status plant species from operations and maintenance activities, the following general and species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project, in the unlikely event that the Proposed Project site near the Sunset Pump Station has become occupied by special-status plants: GPM-5, GPM-7 through GPM-9, PLANT-1 through PLANT-4, VHDR-1, and VHDR-2. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also **Appendix B**.) This impact would be ***less than significant with the implementation of general protection measures and species protection measures***.

The constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to adverse effects on special-status plant habitat.

Impact 3.6-2: Implementation of the Proposed Project could adversely affect habitat for special-status wildlife species. (Final SRGO Program EIR Impact 3.5-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, as discussed above under Impact 3.6-1. The Final SRGO Program EIR contained the following general protection measures to reduce the impacts of construction activities on special-status terrestrial wildlife: GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, and VHDR-1 through VHDR-5. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.)

Additionally, the Final SRGO Program EIR contained the following general and species-specific special-status wildlife species protection measures to reduce the impacts of construction activities on special-status terrestrial wildlife: SPM-1 through SPM-6, AMP-1 through AMP-11, REP-1 through REP-6, BIRD-1 through BIRD-5, MAM-1 through MAM-5, and INVERT-1 through INVERT-4. (See Table 1-8 in Chapter 1, "Introduction," of this Draft SEIR for species protection measure titles.)

Given the uncertainty about whether special-status wildlife and their habitat could be avoided during construction, the Final SRGO Program EIR determined this impact to be significant and unavoidable (see Final SRGO Program EIR Section 3.5.4). No mitigation measures were identified.

The Final SRGO Program EIR expected that supplemental analyses would be conducted during project-level planning to specifically determine which special-status wildlife species could be affected by the Proposed Project. Accordingly, during preparation of this Draft SEIR, DWR analyzed the specific special-status terrestrial wildlife species that would have the potential to be affected by the Proposed Project, because this level of analysis was not provided in the Final SRGO Program EIR. The following analysis evaluates the specific types of construction activities that would take place under the Proposed Project and the potential for the respective special-status terrestrial wildlife species to be affected.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle framework recommends additional analysis of elderberry shrubs within 165 feet (approximately 50 meters) of a project site (U.S. Fish and Wildlife Service 2017). In total, 13 elderberry shrubs were observed within 165 feet of the Proposed Project site. These shrubs may be occupied by valley elderberry longhorn beetles, as they provide suitable habitat for the species. During the biological resource surveys, 13 elderberry shrubs or elderberry shrub complexes were identified and mapped within 50 meters (165 feet) of the proposed Project site. In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-1 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, and VHDR-1

through VHDR-5), the following general and invertebrate species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect valley elderberry longhorn beetle: SPM-1, SPM-2, and INVERT-3. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Northwestern Pond Turtle

Suitable aquatic habitat for northwestern pond turtle is present in the Feather River. In-water work may have the potential to affect the species.

The banks of the Feather River are very steep and densely vegetated by trees and shrubs within the riparian habitat. No areas of suitable grassland habitat exist in the vicinity of the Proposed Project site. The upland areas have very compacted soil and are not considered suitable upland nesting habitat for the species. There are no adjacent aquatic habitat areas that may attract turtles to leave the Feather River and walk through the upland habitat in the agricultural land and disturbed areas. The likelihood that northwestern pond turtles would traverse the steep slopes through the dense riparian habitat to reach the upper banks and upland areas adjacent to the riparian habitat is low. A preconstruction survey for special-status species reptiles would be conducted to verify that northwestern pond turtle nests are absent from the Proposed Project site.

The Proposed Project would affect existing northwestern pond turtle habitat through disturbance during site preparation, earthwork, weir removal, and equipment staging and/or stockpiling. Proposed construction activities could adversely affect northwestern pond turtle individuals primarily by resulting in vehicle strikes and disrupting in-water basking habitat. In addition, site preparation and construction activities could obstruct the movement of northwestern pond turtles and reduce the species' prey base.

In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-1 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, VHDR-1 through VHDR-5), the following general and reptile species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect northwestern pond turtle: SPM-1 through SPM-3,[3] SPM-4, SPM-5, REP-1 through REP-3, REP-5, and REP-6. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Burrowing Owl

Although no suitable burrow habitat was observed on the Proposed Project site, the burrowing owl typically occurs around open agricultural areas. Burrowing owls may also occur as a transient in the more open areas of the Proposed Project site. Should any burrowing owls be breeding in the vicinity of construction work, general disturbance from work activities—including exposure to noise, vibration, and dust—could adversely affect burrowing by altering the owls' breeding behaviors (e.g., prompting adults to abandon eggs or chicks in nests).

In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-1 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1,

[3] To protect northwestern pond turtle, for activities that involve in-water work, work would be avoided from October 1 to March 31.

WQHM-2, WQHM-4 through WQHM-6, and VHDR-1 through VHDR-5), the following general and bird species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect burrowing owl: SPM-1 through SPM-3,[4] SPM-5, SPM-6, and BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Swainson's Hawk

Annual grassland is present on the Proposed Project site. Annual grasslands can be considered potential foraging habitat for Swainson's hawk. Foraging habitat for Swainson's hawk would not be affected because the small areas of annual grasslands present in the upland portions of the Proposed Project site are too narrow and small to support effective hunting by this species.

The trees in the riparian forest on the Proposed Project site provide potential nesting habitat for Swainson's hawk. Some of these trees could be removed as part of construction activities for the Proposed Project, particularly to facilitate heavy equipment access to remove the rock weir. If Swainson's hawks start to nest within the Proposed Project site before the start of construction, construction of the Proposed Project would have the potential to affect breeding conditions for the species. Construction activities would overlap the nesting season for Swainson's hawk because work would be restricted to the non-flood season. Construction work during the nesting season, including removal of select riparian trees, could result in the destruction of nests and eggs and the mortality of nestlings. Noise from installing cofferdam sheet piles to facilitate the Sunset Pump Station replacement and upgrade work could adversely affect nesting Swainson's hawks by altering their nesting behaviors (e.g., prompting adults to abandon eggs or chicks in nests). Nesting behavior could also be affected during construction by general disturbance from exposure to increased vibration and dust generation. Should the Proposed Project require removal of an active Swainson's hawk nest tree, DWR would seek incidental take coverage from CDFW before removal of the tree.

In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, and VHDR-1 through VHDR-5), the following general and bird species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect Swainson's hawk: SPM-1 through SPM-3,[5] SPM-6, and BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Other Special-Status Birds

The Proposed Project's construction activities could adversely affect special-status bird species by disrupting nesting activity by special-status birds that may be occupying the Proposed Project site or its vicinity. For example, during summer 2024, a bank swallow nesting colony was observed on the Feather River bank outside of but near the Proposed Project site. Also, general disturbance, including exposure to noise, vibration, and dust, could adversely affect nesting birds by altering their nesting behaviors (e.g., prompting adults to abandon eggs or chicks in nests). Construction work, including the removal of

[4] Because it is not feasible for construction activities to be limited to outside the breeding season for burrowing owl, general Species Protection Measure BIRD-5 would be implemented.

[5] Because it is not feasible for construction activities to be limited to outside the nesting season for Swainson's hawk, bird Species Protection Measure BIRD-5 would be implemented.

riparian trees, during the nesting season could result in the destruction of nests and eggs and the mortality of nestlings.

In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, VHDR-1 through VHDR-5), the following general and bird species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect special-status bird species, including bank swallow: SPM-1 through SPM-3,[6] SPM-6, and BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Special-Status Bats

The riparian forest may provide suitable roost sites for western red bat, pallid bat, and western mastiff bat. The Sunset Pump Station and the buildings near the Sutter Extension Water District maintenance yard just west of Yuba City are the only Proposed Project structures that may provide suitable roost sites for Townsend's big-eared bats. In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, and VHDR-1 through VHDR-5), the following general and mammal species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect special-status bat species: SPM-1 through SPM-3,[7] SPM-6, and MAM-1 through MAM-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Impact Conclusion

To address potential impacts on special-status wildlife species from construction activities, appropriate general and species protection measures proposed in the Final SRGO Program EIR were identified above for each respective special-status terrestrial wildlife species. Species-specific protection measures for special-status amphibian species are not applicable to the Proposed Project because the Proposed Project site does not support them. The impact of construction on special-status wildlife would be ***less than significant with implementation of general protection measures and species protection measures.***

The effects of construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to adverse impacts on special-status wildlife habitat.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for operations, monitoring, and maintenance activities for restoration projects to affect habitat for special-

[6] Because it is not feasible for construction activities to be limited to outside the bird nesting season, bird Species Protection Measure BIRD-5 would be implemented.

[7] Because it is not feasible for construction activities to be limited to outside the bat roosting period, mammal Species Protection Measure MAM-1 would be implemented.

status wildlife species. Most long-term impacts on terrestrial biological resources from implementing the restoration projects permitted under the SRGO were identified to be neutral or beneficial, because the specific purpose of these projects would be to correct existing conditions that contribute to resource degradation. Nevertheless, the Final SRGO Program EIR found that there may be circumstances in which restoration projects designed to specifically benefit special-status fish species may result in tradeoffs with specific terrestrial special-status wildlife species.

The Final SRGO Program EIR's analysis of constructed restoration elements and operations and maintenance of those facilities included all of the same general and species protection measures listed above under "Effects of Construction Activities" to reduce impacts of operations and maintenance activities on special-status wildlife. However, given the uncertainty about whether impacts on special-status wildlife could be avoided during operations and maintenance of restoration sites, the Final SRGO Program EIR determined this impact to be significant and unavoidable (see Final SRGO Program EIR Section 3.5.4). No mitigation measures were identified.

The Final SRGO Program EIR expected that supplemental analyses would be conducted during project-level planning to more specifically determine which special-status terrestrial wildlife species could be affected by the Proposed Project. Accordingly, the following analysis evaluates how operations and maintenance activities under the Proposed Project would affect those special-status terrestrial wildlife species considered previously for impacts of construction-related activities.

Valley Elderberry Longhorn Beetle

The following general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife would protect valley elderberry longhorn beetle from the Proposed Project's constructed facilities and operations and maintenance activities: GPM-1 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, and VHDR-1 through VHDR-5. The following general and invertebrate species protection measures proposed in the Final SRGO Program EIR would also apply to the Proposed Project to protect valley elderberry longhorn beetle: SPM-1, SPM-2, and INVERT-3. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Northwestern Pond Turtle

Suitable aquatic habitat for the northwestern pond turtle within the Proposed Project site would remain present in the Feather River channel with the constructed facilities and during the period of the Proposed Project's operations and maintenance. Potential basking habitat for the species would also remain present in the channel. Maintenance of constructed restoration elements for the Proposed Project is expected to have effects on northwestern pond turtle similar to those described previously for construction of the Proposed Project. The magnitude and duration of these impacts on northwestern pond turtle would likely be reduced because the scale of equipment use and ground disturbance would be limited. In addition to the general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife (GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4, and WQHM-6), the following general and reptile species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect western pond turtle during

operations and maintenance activities: SPM-3,[8] SPM-4, SPM-5, REP-1, REP-2, REP-5, and REP-6. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Burrowing Owl

Constructed facilities and operations and maintenance associated with the Proposed Project are not expected to change significantly from the Proposed Project as compared to baseline conditions because they would not the alter the availability or suability of breeding and foraging habitat for the species. Maintenance of constructed facilities under the Proposed Project is expected to have effects on burrowing owl similar to those described previously for construction of the Proposed Project. The magnitude and duration of these impacts on burrowing owl would likely be reduced because the scale of equipment use and ground disturbance would be limited.

The following general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife would protect burrowing owl during the Proposed Project's operations and maintenance activities: GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4, and WQHM-6. Given these considerations, the effects of the Proposed Project's operations and maintenance activities on burrowing owl are expected to be minimal. The following general and bird species protection measures proposed in the Final SRGO Program EIR would also apply to the Proposed Project to protect western burrowing owl: BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Swainson's Hawk

As described in more detail below under Impact 3.6-3, the extent of riparian forest within the Proposed Project site is expected to increase with the Proposed Project. This increased extent of riparian forest would eventually create additional nesting opportunities for Swainson's hawks. Maintenance of constructed facilities under the Proposed Project is expected to have effects on Swainson's hawks similar to those described previously for construction of the Proposed Project. The magnitude and duration of these impacts on Swainson's hawks would likely be reduced because the scale of equipment use and ground disturbance would be limited.

The following general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife would protect Swainson's hawk from the Proposed Project's constructed facilities and operations and maintenance activities: GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4, and WQHM-6. The following general and bird species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project to protect Swainson's hawks in the event active hawk nests are established in trees close to where maintenance activities would take place: SPM-6, and BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

[8] To protect western pond turtle, for activities that involve in-water work, work would be avoided from October 1 to March 31.

Other Special-Status Birds

The Proposed Project site would likely continue to be potentially occupied by special-status bird species with the constructed facilities and during the operations and maintenance period for the Proposed Project. The reduction in the Feather River's water surface elevation under Proposed Project operation as a result of the removal of the Sunset Weir would expose unvegetated banks that could potentially be used by bank swallow colonies if the soil conditions are suitable. Maintenance of constructed facilities under the Proposed Project is expected to have effects on nesting birds similar to those described above for construction of the Proposed Project. The magnitude and duration of impacts on these bird species would likely be reduced because the scale of equipment use and ground disturbance would be limited.

The following general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife would protect special-status birds from the Proposed Project's constructed facilities and operations and maintenance activities: GPM-2 through GPM-7, GPM-10, GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4, and WQHM-6. The following general and bird species protection measures proposed in the Final SRGO Program EIR would also apply to the Proposed Project to protect special-status bird species: SPM-6, and BIRD-1 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Special-Status Bats

Operation and maintenance of constructed facilities under the Proposed Project is expected to have effects on special-status bat species—western red bat, pallid bat, western mastiff bat, and Townsend's big-eared bat—that would be similar to those described above for construction of the Proposed Project. The magnitude and duration of impacts on this bat species would likely be reduced because the scale of equipment use and ground disturbance would be limited. The following general protection measures identified in the Final SRGO Program EIR to protect special-status terrestrial wildlife would protect special-status bats from the Proposed Project's constructed facilities and operations and maintenance activities: SPM-1 through SPM-3,9 SPM-6, and MAM-1 through MAM-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection measure titles; see also Appendix B.)

Impact Conclusion

To address potential impacts on special-status wildlife species from constructed facilities and operations and maintenance activities, appropriate general and species protection measures proposed in the Final SRGO Program EIR were identified above for each respective special-status terrestrial wildlife species. Species-specific protection measures for special-status amphibian species are not applicable to the Proposed Project because the Proposed Project site does not support them, and the Proposed Project design is not expected to create new habitat for such species. The impact would be ***less than significant with implementation of general protection measures and species protection measures.***

The impacts of constructed facilities and the operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and

[9] Because it is not feasible for construction activities to be limited to outside the bat roosting period, mammal Species Protection Measure MAM-1 would be implemented.

would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to adverse effects on special-status wildlife habitat.

Impact 3.6-3: Implementation of the Proposed Project could result in adverse effects on riparian habitat or sensitive natural communities. (Final SRGO Program EIR Impact 3.5-3.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential effects on riparian habitat or other sensitive natural communities. Construction of restoration projects permitted under the SRGO could result in the disturbance or removal of sensitive habitats, including wetlands and other waters of the United States and riparian habitat, when vegetation is trimmed and removed to facilitate construction access or grading work. Because the Final SRGO Program EIR did not describe the specific size, location, implementation timing, or configuration of restoration projects, it stated that an understanding of such restoration project–specific factors is necessary to evaluate the potential impacts of constructed restoration elements on riparian habitat or other sensitive natural communities, and to identify appropriate regulatory requirements, general protection measures, and/or mitigation measures.

The Final SRGO Program EIR contained the following general protection measures to reduce the impacts of construction activities on sensitive natural communities: GPM-5, GPM-7, GPM-8, GPM-12, GPM-15, WQHM-4, VHDR-2, and VHDR-3. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Additionally, restoration projects that could adversely affect riparian habitat or sensitive natural communities would implement the following species protection measures, as applicable: SPM-1, SPM-2, INVERT-1, INVERT-2, and INVERT-3. (See Table 1-8 in Chapter 1, "Introduction," of this Draft SEIR for species protection measure titles.) This impact of construction on riparian habitat was determined to be less than significant with implementation of general protection measures in the Final SRGO Program EIR (see Final SRGO Program EIR Section 3.5.4); therefore, no mitigation measures were identified.

Consistent with the types of construction activities evaluated by the Final SRGO Program EIR, construction of the Proposed Project would require the activities described under Impact 3.6-1. Construction work for the Proposed Project would affect riparian habitats on the Proposed Project site. Based on preliminary drawings, a limited amount of riparian vegetation could be removed from within the riparian forest along both the left and right banks of the Feather River to enable the removal of the Sunset Weir. In addition, the proposed grading footprint to facilitate the left bank repair is expected to require the removal of some additional riparian trees. The temporary loss of riparian vegetation, including large trees, would reduce potential nesting and roosting habitats for special-status wildlife species until the plantings at the left bank repair site have matured. Riparian forest could be indirectly affected by sedimentation, dust generation, accidental leaks or spills of fuel or soil, and accidental introduction of invasive plant species carried as seeds on construction equipment or personnel. Indirect effects on riparian forest could also result from soil disturbance, which tends to benefit the spread of invasive plant species. Invasive plant species can outcompete native plant species, reducing the complexity and quality of habitat for native vegetation.

The amount of newly planted riparian habitat under the Proposed Project associated with the left bank repair site would exceed the amount of affected riparian habitat. The left bank stabilization would include

planting of native container plants, elderberry seedings, and clusters of willow poles to restore riparian habitat. Therefore, the Proposed Project would result in a net gain in the extent of riparian habitat compared to baseline conditions. The general protection measures identified below would also address potential indirect effects of construction on the riparian forest to be preserved in place, such as by reducing fugitive dust generation and preventing the spread of invasive exotic plants that can compete with native riparian plants.

To address potential impacts on riparian forest and other sensitive natural communities from construction activities, the following general protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project: GPM-5, GPM-7, GPM-8, GPM-12, GPM-15, WQHM-4, VHDR-2, and VHDR-3. The following measures would also be implemented: GPM-1, GPM-2, GPM-4, GPM-6, GPM-9, GPM-10, GPM-11, GPM-13, GPM-14, and WQHM-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) With the aforementioned measures, construction of the Proposed Project would result in a ***less-than-significant impact with implementation of general protection measures.***

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for construction impacts of the Proposed Project on riparian habitat and other sensitive natural communities.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential effects of constructed facilities and operations and maintenance activities on riparian habitat or other sensitive natural communities. The Final SRGO Program EIR evaluated constructed facilities, determining that most long-term impacts on riparian habitat and other sensitive natural communities from implementing the restoration projects permitted under the SRGO should be neutral or beneficial. This conclusion was reached because the specific purpose of these projects would be to correct existing conditions that contribute to resource degradation. The analysis in the Final SRGO Program EIR included all of the same general and species protection measures listed above under "Effects of Construction Activities" to reduce the impacts of operations and maintenance activities on sensitive natural communities (see Final SRGO Program EIR Section 3.5.4).

The Final SRGO Program EIR determined that under certain circumstances, the effects of constructed facilities may convert particular terrestrial natural community habitats—including ones considered sensitive by CDFW—to other generally aquatic community types. Therefore, the Final SRGO Program EIR determined this impact to be significant and unavoidable (see Final SRGO Program EIR Section 3.5.4). No mitigation measures were identified.

The constructed facilities of the Proposed Project would expand riparian habitat within the Proposed Project site because the reach of the Feather River that was previously inundated below a deep pool upstream of the Sunset Weir would become naturally colonized by riparian vegetation. Initially these areas are expected to be occupied by species such as willows and cottonwood, which are sometimes

described as "pioneer" species because of their ability to quickly colonize newly exposed riverbank areas. Ultimately, the Proposed Project site would experience a net gain in sensitive riparian natural communities.

Ongoing long-term maintenance of the Proposed Project site may result in spatially limited, short-term impacts on riparian habitat, particularly if the maintenance would require vegetation management. The potential also exists for indirect effects on the riparian forest, such as fugitive dust generation, from maintenance activities; however, the intensity of these indirect effects would be much lower than those associated with the Proposed Project's construction phase. The implementation of general protection measures for protecting sensitive natural communities during maintenance activities would minimize long-term impacts from Proposed Project operations and maintenance.

To address potential impacts on riparian forest and other sensitive natural communities from operations and maintenance activities, the following general protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project: GPM-1, GPM-4, GPM-7, GPM-9, GPM-12, GPM-15, WQHM-4, VHDR-2, and VHDR-3. General Protection Measures GPM-10 and WQHM-6 would also be implemented. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) With the aforementioned measures, the impact of constructed facilities and operations and maintenance activities associated with the Proposed Project would be ***less than significant with implementation of general protection measures***.

Constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for such impacts of the Proposed Project on riparian habitat and other sensitive natural communities.

Impact 3.6-4: Implementation of the Proposed Project could result in adverse effects on State and federally protected wetlands through direct removal, hydrological interruption, or other means. (Final SRGO Program EIR Impact 3.5-4.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, as discussed above for Impact 3.6-1. The Final SRGO Program EIR identified the following general protection measures to reduce the impacts of construction activities on State and federally protected wetlands and other waters during construction: GPM-5, GPM-7, GPM-10, GPM-11, GPM-14, GPM-15, WQHM-1 through WQHM-6, IWW-1 through IWW-4, IWW-8, IWW-11, and IWW-13. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) The Final SRGO Program EIR determined this impact of construction on State and federally protected wetlands and other waters to be less than significant with implementation of general protection measures (see Final SRGO Program EIR Section 3.5.4). No mitigation measures were identified.

Construction of the Proposed Project would result in direct and indirect impacts on waters of the United States and State. Construction activities would occur throughout potentially jurisdictional waters of the United States and State. DWR would meet USACE's requirements under the CWA Section 404 permitting process (e.g., Nationwide Permit 27 or the USACE Sacramento District's Regional General

Permit 16). For example, the Proposed Project was designed consistent with the terms of Regional Permit 16, which call for temporary construction-related impacts to be sited to avoid and minimize impacts on seasonal wetlands and other aquatic resources, to avoid any impacts on vernal pools, and to result in an overall increase in aquatic function and services. In addition, DWR would comply with the Central Valley RWQCB's requirements for compliance with CWA Section 401. For example, by tiering off the State Water Board's Program EIR, DWR is already committing to adhering to any aquatic resource protection measures that would be required by the Central Valley RWQCB pursuant to approval of projects under the Statewide Restoration General Order.

Furthermore, as required by Section 1602 of the California Fish and Game Code, DWR would notify CDFW of any impacts of the Proposed Project on the bed, bank, or channel of a river, stream, or lake. The Proposed Project would increase the functional value of the riverine habitat within the Feather River system by allowing the reestablishment of riffle, run, and pool complexes upstream of the existing rock weir. Accordingly, no compensatory mitigation for minor construction-related effects on jurisdictional waters is needed.

To address potential impacts on jurisdictional waters from construction activities, the following general protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project: GPM-1, GPM-5, GPM-7 through GPM-11, GPM-14, GPM-15, WQHM-1 through WQHM-6, and IWW-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Because these measures would be implemented consistent with the Final SRGO Program EIR, the impact of construction activities associated with the Proposed Project would result in a ***less-than-significant impact with implementation of general protection measures***.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for construction impacts of the Proposed Project on jurisdictional wetlands and other waters.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential effects of constructed facilities and operations and maintenance activities on jurisdictional wetlands and other waters. The Final SRGO Program EIR evaluated constructed facilities, determining that most long-term impacts on wetlands and other waters from implementing the restoration projects permitted under the SRGO should be neutral or beneficial. This conclusion was reached because the specific purpose of these projects would be to correct existing conditions that contribute to resource degradation. The Final SRGO Program EIR's analysis of constructed facilities and operations and maintenance of those facilities included all of the same general and species protection measures listed above under "Effects of Construction Activities" to reduce the impacts of operations and maintenance activities on jurisdictional wetlands and other waters. The Final SRGO Program EIR determined this impact from effects of constructed facilities and operations and maintenance activities on jurisdictional wetlands and other waters to be less than significant with implementation of general protection measures (see Final SRGO Program EIR Section 3.5.4).

Operation and maintenance of constructed facilities, including restored habitats along the left bank, is expected to have effects on habitat in the Feather River similar to those described for construction of the Proposed Project. However, the effects would be reduced in scope because the scale of equipment use and ground disturbance is expected to be much smaller. To address potential impacts on other waters from maintenance activities, the following general protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project: GPM-5, GPM-7, GPM-9 through GPM-11, WQHM-1, WQHM-4, WQHM-6, IWW-1 through IWW-3, IWW-8, and IWW-13. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Additionally, because localized herbicides may be employed during operations and maintenance, Species Protection Measure PLANT-6 and General Protection Measures VHDR-6 through VHDR-8 would also apply to the Proposed Project. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection titles; see also Appendix B.)

General Protection Measure IWW-11 is not proposed because the operations and maintenance activities under the Proposed Project are not expected to involve in-water pile driving. Because General Protection Measures GPM-5, GPM-7, GPM-10, GPM-11, WQHM-1, WQHM-4, WQHM-6, IWW-1 through IWW-3, IWW-8, IWW-13, and VHDR-6 through VHDR-8 and Species Protection Measure PLANT-6 would be implemented, the constructed facilities and operations and maintenance activities for the Proposed Project would result in a ***less-than-significant impact with implementation of general protection measures and species protection measures***.

Constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for such impacts of the Proposed Project on other jurisdictional waters.

Impact 3.6-5: Implementation of the Proposed Project could interfere with the movement of native resident and migratory wildlife species. (Final SRGO Program EIR Impact 3.5-5.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential effects of construction on the movement of native resident and migratory wildlife species. Construction work for restoration projects permitted under the Order could temporarily affect wildlife movement and migration conditions and alter the foraging patterns of resident wildlife species on the Proposed Project site. These effects would result primarily from ground and noise disturbances generated by construction equipment and personnel. The Final SRGO Program EIR identified the following general protection measures to reduce the impacts of construction activities on the movement of native resident and migratory wildlife species during construction: GPM-2 through GPM-7, and VHDR-1 through VHDR-3. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.)

Additionally, the Final SRGO Program EIR stated that the following species protection measures would be implemented for restoration projects that could interfere with the movement of native resident and migratory wildlife species: SPM-1 through SPM-6, AMP-1 through AMP-11, REP-1 through REP-6,

BIRD-1 through BIRD-5, MAM-1 through MAM-5, and INVERT-1 through INVERT-4. (See Table 1-8 in Chapter 1, "Introduction," of this Draft SEIR for species protection measure titles.)

The Final SRGO Program EIR determined this impact of construction on the movement of native resident and migratory wildlife species to be less than significant with implementation of general protection measures and species protection measures (see Final SRGO Program EIR Section 3.5.4).

Construction activities for the Proposed Project could temporarily interfere with the local movement of native resident or migratory wildlife species. Grading and other ground-disturbing activities could temporarily disrupt the movement of common and special-status reptiles and amphibians, such as northwestern pond turtle. However, construction work would not substantially interfere with the movement of these species because they could move through adjacent unaffected habitat. Construction activities, including equipment and personnel movement and removal of vegetation, could interfere with the movement of other terrestrial wildlife species, such as small mammals or birds (e.g., songbirds may adjust their movement patterns to avoid humans and large equipment). However, these activities are not expected to cause substantial effects on the movement of these species, which are mobile and can move away from construction areas to unaffected areas. Noise from construction of the Proposed Project could temporarily alter the foraging patterns of resident wildlife species on the Proposed Project site, but it is not expected to substantially interfere with foraging because these species could move to nearby unaffected habitat.

To address potential impacts on the movement of native resident and migratory wildlife species from construction activities, the following general protection measures and species protection measures proposed in the Final SRGO Program EIR would apply to the Proposed Project: General Protection Measures GPM-1 through GPM-7; General Species Protection Measures SPM-3 through SPM-6; reptile Species Protection Measures REP-4 through REP-6; bird Species Protection Measures BIRD-2 through BIRD-5; mammal Species Protection Measures MAM-1 through MAM-5; and valley elderberry longhorn beetle Protection Measure INVERT-3. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for species protection measure titles; see also Appendix B.) Protection measures for special-status amphibians and other invertebrates besides the valley elderberry longhorn beetle would not apply to the Proposed Project because suitable habitat for these species is not present. This impact on movement of native resident and migratory wildlife species would be ***less than significant with implementation of general protection measures and species protection measures.***

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for construction impacts of the Proposed Project on movement of native resident and migratory wildlife species.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the effects of restoration projects that the SRGO would encourage and promote, including long-term impacts on movement of terrestrial wildlife species. As stated in the Final SRGO Program EIR, the general expectation would be that restoration projects would generally have beneficial, or at least neutral, effects on movement of wildlife species. The Final SRGO Program EIR determined that the impact of constructed facilities and operations

and maintenance activities on the movement of native resident and migratory wildlife species would be less than significant with implementation of the same general and species protection measures as listed above under "Effects of Construction Activities" (see Final SRGO Program EIR Section 3.5.4).

The benefits of the Proposed Project related to improving fish passage are described in Section 3.7, "Biological Resources—Aquatic." The effects of the implemented fish passage project on the movement of terrestrial wildlife species would be largely neutral. Depending on the velocity of the water, the restoration of riffle, run, and pool complexes within the reach of the Feather River upstream of the Sunset Weir may slightly slow down the movement of certain species, such as northwestern pond turtle, compared to baseline conditions. In localized areas of faster currents associated with riffles, northwestern pond turtles may need to move overland to travel upstream around the currents (in lieu of swimming through them). This behavior would be effectively the same as how the species would likely navigate past other naturally flowing reaches of rivers within its distribution range (i.e., the restoration project would not establish an unnatural barrier to movement for the species). Operations and maintenance activities may have effects similar to those described previously for construction activities, but the relative scale of those effects would be much smaller in intensity and duration.

To address potential impacts on the movement of native resident and migratory wildlife species from constructed facilities and operations and maintenance activities, the following general protection measures and species protection measures for reptiles, amphibians, and birds proposed in the Final SRGO Program EIR would apply to the Proposed Project: GPM-2 through GPM-7, SPM-3 through SPM-6, REP-4 through REP-6, BIRD-2 through BIRD-5. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure and species protection titles; see also Appendix B.)

Species-specific protection measures related to special-status amphibian species are not applicable to the Proposed Project because the Proposed Project site does not support them and the restoration design would not create new habitat for such species. Because General Protection Measures GPM-2 through GPM-7 and Species Protection Measures SPM-3 through SPM-6, REP-4 through REP-6, and BIRD-2 through BIRD-5 would be implemented, the impact of operations and maintenance activities for the Proposed Project on the movement of native resident and migratory wildlife species would be ***less than significant with implementation of general protection measures and species protection measures***.

Constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed such impacts related to movement of native resident and migratory wildlife species.

Impact 3.6-6: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources. (Final SRGO Program EIR Impact 3.5-6.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the construction-related effects of restoration projects that the SRGO would encourage and promote, including the potential for conflicts with local policies or ordinances protecting biological resources. The Sutter County General Plan identifies goals intended for the protection of biological resources: Goal ER-1, which calls for a

comprehensive approach for the conservation and enhancement of the county's habitat and natural open space resources; Goal ER-2, which calls for conservation, protection, and enhancement of natural wetland and riparian habitats; and Goal ER-3, which calls for conservation, protection, and enhancement of the county's varied wildlife and vegetation resources. The Yuba County General Plan identifies policies intended for protection of biological resources: Policy NR5.1, which calls for new developments to identify design solutions that avoid adverse effects on special-status species habitat; Policy NR5.4, which calls for new development to be located and designed to preserve and incorporate native vegetation to the maximum extent feasible; and Policy NR5.13, which calls for new developments to avoid placing temporary or permanent barriers with wildlife movement corridors.

The impacts related to conflicts with policies or ordinances protecting biological resources would be less than significant with implementation of the general protection measures and species protection measures listed in Impacts 3.6-1 through 3.6-5, above, for impacts of construction activities. As described previously, certain species-specific protection measures for special-status amphibian species are not applicable to the Proposed Project because the Proposed Project site does not support them. This impact would be ***less than significant with implementation of general protection measures and species protection measures***.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for construction impacts of the Proposed Project as it pertains to conflicts with local ordinances or policies.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the operations and maintenance effects of restoration projects that the SRGO would encourage and promote, including the potential for conflicts with local policies or ordinances protecting biological resources. The Final SRGO Program EIR determined this impact from effects of constructed facilities and operations and maintenance activities to be less than significant. The Final SRGO Program EIR's analysis of constructed facilities and operations and maintenance of those facilities included all of the same general and species protection measures listed above under "Effects of Construction Activities" to reduce the conflicts of constructed facilities and operations and maintenance activities on local policies or ordinances protecting biological resources (see Final SRGO Program EIR Section 3.5.4).

The applicable general protection measures and species protection measures from the Final SRGO Program EIR that were previously identified by Impacts 3.6-1 through 3.6-5 of this Draft SEIR for implementation during the construction phase would be adequate to minimize conflicts with local policies or ordinances protecting biological resources. This impact would be ***less than significant with the implementation of general protection measures and species protection measures***.

Constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Final SRGO Program EIR Section 3.5, "Biological Resources–Terrestrial," Section 3.5.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the

potential for constructed facilities and operations and maintenance activities of the Proposed Project as it pertains to conflicts with local ordinances or policies.

3.7 Biological Resources—Aquatic

3.7.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to aquatic biological resources (e.g., fisheries). The environmental setting and the evaluation of impacts on aquatic biological resources are based on a review of existing, publicly available literature and data, and on the biological surveys completed for the Proposed Project described in the *Sunset Weir and Pumps Fish Passage Project Biological Resources Technical Report* (**Appendix E** to this Draft SEIR).

No comments addressing aquatic biological resources were received in response to the Notice of Preparation (NOP). See **Appendix A** for NOP comment letters.

3.7.2 Environmental Setting

The following sections introduce the existing conditions in the region and Proposed Project site as they relate to aquatic biological resources and describe the special-status species and critical habitat known to occur or that have the potential to occur within the Proposed Project site. See Section 3.6, "Biological Resources—Terrestrial," for a discussion of terrestrial species and habitats, including wetlands and non-wetland waters.

3.7.3 Data Sources

The aquatic resources environmental setting for the Proposed Project site and surrounding areas was determined through review of pertinent literature and database queries. The sources of reference data reviewed for this evaluation include the following:

- National Marine Fisheries Service (NMFS) critical habitat mapper (National Marine Fisheries Service 2025a).
- U.S. Fish and Wildlife Service (USFWS) list of species that may be affected by projects in the area (U.S. Fish and Wildlife Service 2025).
- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the Gridley and eight surrounding quadrangles (California Department of Fish and Wildlife 2024).
- Sunset Weir and Pumps Fish Passage Project Biological Resources Technical Report, included as Appendix E to this Draft SEIR.

Existing Conditions for Aquatic Biological Resources in the Lower Feather River

The Feather River is located in the Lower Sacramento Basin, one of the upper watersheds within the greater San Francisco Bay/Sacramento–San Joaquin Delta (Bay-Delta) watershed. The Feather River has four main tributaries (West Branch, North Fork, Middle Fork, and South Fork), which meet at Lake

Oroville and Oroville Dam. Oroville Dam is a principal feature for the California State Water Project, storing water for more than 23 million people and 750,000 acres of farmland in Central and Southern California. Oroville Dam divides the Feather River into two parts: the upper Feather River, including all streams, tributaries, and headwaters of the Feather River; and the lower Feather River from Oroville Dam to the confluence with the Sacramento River at Verona.

Below Oroville Dam and Butte County, the Feather River runs along the border between Sutter County (east bank) and Yuba County (west bank). South of Yuba City, a portion of the Feather River and its adjacent riparian habitat was designated as a wildlife area by the California Fish and Game Commission in 1991. Below Oroville Dam, the Feather River is joined by Honcut Creek, the Yuba River, and the Bear River before joining the Sacramento River.

The lower Feather River below the reservoir is regulated by Oroville Dam, the Thermalito Diversion Dam, and the Thermalito Afterbay Outlet. Under normal operations, the majority of the Feather River flow is diverted at the Thermalito Diversion Dam into Thermalito Forebay, and water released by the forebay is used to generate power before discharge into Thermalito Afterbay. Water is returned to the Feather River through the Thermalito Afterbay Outlet. The primary area of interest for salmon spawning is the low-flow channel, which extends from the Fish Barrier Dam (River Mile [RM] 67) to the Thermalito Afterbay Outlet (RM 59), and a lower reach from the Thermalito Afterbay Outlet to Honcut Creek (RM 44) (Sommer et al. 1998). There is little or no spawning activity in the Feather River below Honcut Creek (Sommer et al. 1998).

The lower Feather River supports populations of multiple anadromous fishes that are listed as threatened or of special concern, including California Central Valley steelhead, Central Valley spring-run Chinook salmon, Central Valley fall-/late fall-run Chinook salmon, and the southern distinct population segment (DPS) of green sturgeon. The absence of upstream and downstream fish passage at the dams in the upper Feather River has resulted in the loss of access to migratory habitat, spawning habitat, incubation habitat, and rearing habitat for these species. Native fish habitat conditions in the lower Feather River have become degraded as a result of anthropogenic activities including bank protection, gravel mining and dredging, loss of bed material recruitment, riparian vegetation removal, diversions, flow regulation, and flood control (Buer et al. 2004; Williams et al. 2016).

The Feather River Fish Hatchery (FRFH) was constructed in 1967 to mitigate the loss of Chinook salmon and California Central Valley steelhead spawning habitat blocked by Oroville Dam. The main FRFH operates at the base of Oroville Dam and a secondary hatchery facility is located at RM 55. The hatchery breeds fall-run Chinook salmon, Central Valley spring-run Chinook salmon, and California Central Valley steelhead. The original purpose of the spring-run Chinook salmon program at the FRFH was solely to mitigate construction of Oroville Dam and associated facilities. Although this remains a goal of the program, the primary purpose of the program has shifted toward aiding in the recovery and conservation of the State-listed and federally listed Central Valley spring-run Chinook salmon. The FRFH produces a consistent quantity of yearling California Central Valley steelhead (450,000) and Central Valley spring-run Chinook salmon (2,000,000) every year, independent of external environmental conditions that could adversely affect naturally spawning California Central Valley steelhead or Central Valley spring-run Chinook salmon. Hatchery-produced fish now constitute a substantial fraction of the Chinook salmon produced in the Central Valley (Yoshiyama et al. 1998). Potential effects of increased

hatchery populations include direct competitive interactions between hatchery and wild juveniles, elevation of predation pressure on juveniles, usurpation of spawning areas by hatchery-derived adults, disease transmission, and genetic dilution of wild stocks by interbreeding with hatchery fish (Yoshiyama et al. 1998).

Water from the Feather River is heavily used and diverted into irrigation ditches for agricultural purposes. Water diversions have the potential to affect listed fish species in two ways: direct fish entrainment and habitat alteration through changes to water flow, temperature, hydrology, or the creation of predation hotspots. Entrainment risk is primarily a concern for water diversions that are unscreened and the fry or juvenile life stages are most vulnerable. Additionally, the lower Feather River is included on the 2024 Clean Water Act Section 303(d) list of impaired waterbodies as impaired by sources of mercury, certain pesticides, and toxicity of unknown origin (State Water Resources Control Board 2024).

Existing Conditions for Aquatic Biological Resources within the Proposed Project Site

The Proposed Project site is located near RM 38.3 of the Feather River on the right (west) bank, approximately 2 miles southeast of Live Oak in Sutter County. The Project is located inboard of the right (west) levee of the Feather River, which is part of the Sacramento River Flood Control Project and operated and maintained by Levee District 9. The Sunset Weir, a 10-foot-tall boulder weir originally constructed in the 1920s, ties into the left (east) bank of the Feather River along orchard lands owned by Farmland Reserve, Inc. The weir is operated and maintained by Sutter Extension Water District (SEWD) to maintain a hydraulic head for SEWD's water diversion at the Sunset Pumps, located on the right (west) bank of the Feather River.

Fish Passage

The Sunset Weir represents a potential barrier to adult fish passage. Fish populations that are known to migrate through the Feather River and are likely obstructed by the weir include California Central Valley steelhead, Central Valley fall-run Chinook salmon, Central Valley spring-run Chinook salmon, and the southern DPS of green sturgeon.

Spring-run Chinook salmon and green sturgeon have been the primary focus of prior work and resource management agency assessments related to the Sunset Weir. Adverse effects on these populations may include blockages of their access to spawning habitat; assumed increases in predation by non-native predatory fish that ambush juveniles after they flow over the weir and into the plunge pool; migration delays that reduce their reproductive success; and reductions in their abundance (National Marine Fisheries Service 2016). In dry, low-flow years, there may be no passage opportunities when these fish are attempting to migrate upstream to their spawning habitat. Previous analyses have suggested that the weir may be impassable for green sturgeon when flows in the Feather River drop below approximately 6,000 cubic feet per second (Seesholtz et al. 2015).

Various hydrology studies and design efforts (U.S. Bureau of Reclamation and California Department of Water Resources 2018; Environmental Science Associates 2020) have confirmed that the Sunset Weir is likely to prevent passage for sturgeon at all passage flows and for salmon over all but the higher end of the flow range. Achieving unimpeded passage for green sturgeon would alleviate concerns for other

species, as green sturgeon capabilities and passage requirements are the most limiting. See Section 3.11, "Hydrology and Water Quality," for additional description of the hydrologic setting.

Special-Status Species

Special-status species are regulated under the federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified in the following categories:

- Species listed or proposed for listing as threatened or endangered under the FESA (Code of Federal Regulations [CFR] Title 50, Section 17.12 [50 CFR Section 17.12] [listed plants], 50 CFR Section 17.11 [listed animals], and various notices in the *Federal Register* [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the FESA (61 FR 40, February 28, 1996).
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (California Code of Regulations [CCR] Title 14, Section 670.5 [14 CCR Section 670.5]).
- Animal Species of Special Concern to CDFW.
- Animals fully protected under the California Fish and Game Code (Section 3511 [birds], Section 4700 [mammals], and Section 5050 [reptiles and amphibians]).
- Species that meet the definitions of rare and endangered under CEQA; a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists so long as it meets the criteria of "rare or endangered" (CEQA Guidelines Section 15380).

A list of special-status fish species that have the potential to occur within the Proposed Project site was compiled based on data contained in the CNDDB (California Department of Fish and Wildlife 2024) and on the USFWS List of Threatened and Endangered Species that May Occur in Your Proposed Project Location or May Be Affected by Your Proposed Project (U.S. Fish and Wildlife Service 2025). **Table 3.7-1** provides a list of special-status fish species, their general habitat requirements, and an assessment of their potential to occur in the vicinity of the Proposed Project site.

The "Potential to Occur" categories are defined as follows:

- **None:** A species is determined to have no potential to occur if (1) its specific habitat requirements are not present *AND/OR* (2) it is outside the range or presumed to be extirpated from the Proposed Project site or region *AND/OR* (3) a survey has been conducted according to agency protocol and the species was not found.
- **Low**: A species is determined to have a low potential to occur if (1) its known current distribution or range is outside of but near the Proposed Project site *AND/OR* (2) only limited or marginally suitable habitat is present.
- **Moderate**: A species is determined to have a moderate potential to occur if (1) habitat is present in the Proposed Project site or immediately adjacent areas *AND* (2) the Proposed Project site is in the known range of the species, even if the species was not observed during general biological surveys.

- **High:** A species is determined to have a high potential to occur or be present if (1) habitat is present in the Proposed Project site or immediately adjacent areas *AND* (2) the Proposed Project site is in the known range of the species *AND/OR* (3) there are recent and reliable records of the species on or near the site.

Conclusions regarding habitat suitability and species occurrence are based on the analysis of existing literature and databases described previously and known habitats occurring within the Proposed Project site. Four special-status species have high potential to occur and three special-status species have moderate potential to occur within the Proposed Project site; six species have low or no potential to occur. Only species classified as having a moderate or high potential for occurrence within the Proposed Project site are discussed below.

TABLE 3.7-1
SPECIAL-STATUS FISH SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE PROPOSED PROJECT SITE

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence within the Proposed Project Site
Acipenser medirotris pop. 1	Green sturgeon–southern DPS	FT/SSC/--	Spawning occurs primarily in cool (11–15°C) sections of mainstem rivers in deep pools (8–9 meters) with substrate containing small to medium-sized sand, gravel, cobbles, or boulders.	**High.** Green sturgeon have been recorded in the Feather River.
Acipenser transmontanus	White sturgeon	--/SC/--	Spawning occurs primarily in cool (11–15°C) sections of mainstem rivers in deep pools (8–9 meters) with substrate containing small to medium-sized sand, gravel, cobbles, or boulders. Reside primarily in the San Francisco Estuary.	**Moderate.** Adult white sturgeon could occur within the Proposed Project site during spawning seasons on the Feather River. Juveniles could occur while rearing and during their out-migration to the Delta.
Oncorhynchus mykiss irideus pop. 11	Steelhead–Central Valley DPS	FT/--/--	This DPS enters the Sacramento and San Joaquin rivers and their tributaries from July to May; spawning occurs from December to April. Young move to rearing areas in and through the Sacramento and San Joaquin rivers, the Delta, and San Pablo and San Francisco bays.	**High.** Adults feed in the Feather River and may use suitable gravel areas for spawning.
Oncorhynchus tshawytscha pop. 7	Chinook salmon–Sacramento River winter-run ESU	FE/SE/--	Anadromous species using riverine, estuarine, and saltwater habitat. Adult migration potentially occurs from January through May. Juvenile out-migration occurs from November through mid-March.	**Low.** Adults may feed in the Feather River and may use suitable gravel areas for spawning, but they are primarily found and spawn in the main stem of the Sacramento River.
Oncorhynchus tshawytscha pop. 11	Chinook salmon–Central Valley spring-run ESU	FT/ST/--	Anadromous species using riverine, estuarine, and saltwater habitat. Adult migration potentially occurs from March through May. Juvenile out-migration occurs from November through April.	**High.** Adults use the Feather River as a migration corridor for adults and juveniles and spawn in suitable gravel areas in the low-flow channel below Oroville Dam.
Oncorhynchus tshawytscha pop. 13	Chinook salmon–Central Valley fall-/late fall-run ESU	SC/SSC/--	Anadromous species using riverine, estuarine, and saltwater habitat. Adult migration potentially occurs from June through December. Juvenile out-migration occurs from March through July.	**High.** Adults use the Feather River as a migration corridor for adults and juveniles and spawn in suitable gravel areas in the low-flow channel below Oroville Dam.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence within the Proposed Project Site
Lampetra tridentata	Pacific lamprey	SC/SSC/--	Adults need clean, gravelly riffles in permanent streams to spawn successfully. Ammocoetes live in silty backwaters and eddies with muddy or sandy substrate into which they burrow.	**Low.** Historically used Sacramento River tributaries, but more commonly present in the lower Sacramento and San Joaquin rivers, including the Delta.
Lampetra ayresii	River lamprey	--/SSC/--	Adults need clean, gravelly riffles in permanent streams to spawn successfully. Ammocoetes live in silty backwaters and eddies with muddy or sandy substrate into which they burrow.	**Low.** Can occur in the lower Sacramento and San Joaquin rivers, including the Delta.
Pogonichthys macrolepidotus	Sacramento splittail	--/SSC/--	Splittail spawn in shallow water over flooded vegetated habitat with a detectable water flow. Splittail larvae and juveniles remain in riparian or annual vegetation along shallow edges on floodplains.	**Moderate.** The Feather River spans historical and present-day habitat for the species.
Lavinia exilicauda exilicauda	Sacramento hitch	--/SSC/--	Sacramento hitch inhabit warm lowland waters including clear streams, turbid sloughs, lakes, and reservoirs.	**Low.** Spread across its native range in the lower Sacramento River.
Archoplites interruptus	Sacramento perch	--/SSC/--	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefer warm water. Aquatic vegetation is essential for young.	**None.** Extirpated from its native range.
Mylopharodon conocephalus	Hardhead	--/SSC/--	Hardhead are often found at low to mid elevations in relatively undisturbed habitats of larger streams with high water quality (clear, cool).	**Low.** In the Sacramento River, common and may be present in its tributaries.
Lavinia symmetricus symmetricus	Central California roach	--/SSC/--	Occurs in small, warm tributaries to larger streams that flow through open foothill woodlands of oak and foothill pine. Located in the foothills in much of the same region that contains the pikeminnow-hardhead-sucker assemblage.	**Moderate.** The Feather River spans historical and present-day habitat for the species.

Key: °C = degrees Celsius; CDFW = California Department of Fish and Wildlife; Delta = Sacramento–San Joaquin Delta; DPS = distinct population segment; DWR = California Department of Water Resources; ESU = evolutionarily significant unit; NMFS = National Marine Fisheries Service; ppt = parts per thousand; USFWS = U.S. Fish and Wildlife Service

Federal (NMFS, USFWS):
- FE = Listed as Endangered by the Federal Government
- FT = Listed as Threatened by the Federal Government

State (CDFW):
- SE = Listed as Endangered by the State of California
- ST = Listed as Threatened by the State of California
- SC = Candidate for listing by the State of California
- SSC = California Species of Special Concern

Sources: National Marine Fisheries Service 2025; California Department of Fish and Wildlife 2024; U.S. Fish and Wildlife Service 2025.

Special-Status Fish with Potential to Occur in the Proposed Project Site

Green Sturgeon

In North America, the southern DPS of green sturgeon is found from Ensenada, Mexico, to southeast Alaska. CDFW classified green sturgeon as a Class 1 Species of Special Concern in 1995 (Moyle et al. 1995). Class 1 Species of Special Concern are those that conform to the State definitions of threatened or endangered and could qualify for addition to the official list (14 CCR Section 15380[d]). On April 7, 2006, NMFS determined that the southern DPS of green sturgeon was threatened under the FESA

(National Marine Fisheries Service 2006a). On October 9, 2009, NMFS designated critical habitat for the green sturgeon southern DPS throughout most of its occupied range (National Marine Fisheries Service 2009), which includes the Feather River within the Proposed Project site.

Green sturgeon are widely distributed in the Sacramento–San Joaquin Delta (Delta) and estuary areas. Historical and recent information confirms that green sturgeon occur in the Sacramento River and a few of its tributary rivers, including the Feather River. Within the freshwater portion of the species' range, green sturgeon distribution is limited by impassable barriers such as Oroville Dam and the Sunset Weir. In the Feather River, the boulder weir at the Sunset Pumps is the first potential barrier encountered by migrating adults (National Marine Fisheries Service 2018a). Historic and present records indicate that spawning by green sturgeon is limited exclusively to the Sacramento River watershed (National Marine Fisheries Service 2018a). Adults typically migrate upstream into rivers between late February and late July. Spawning occurs from March to July, with peak spawning occurring from mid-April to mid-June. Green sturgeon are believed to spawn every 3–5 years, although recent evidence indicates that spawning may be as frequent as every 2 years (National Marine Fisheries Service 2006a). Adult green sturgeon broadcast their eggs in deep, fast water over large cobble substrate, where the eggs settle into the interstitial spaces (Moyle 2002). Larvae hatch from eggs between 6 and 8 days after spawning if temperature conditions are optimal. Larvae and young of year (fish less than 1 year old) forage and rear in riverine areas until they gain the ability to tolerate higher salinity concentrations.

Juvenile green sturgeon live in fresh water for up to 3 years using riverine, subtidal, and intertidal habitats in the lower Sacramento River and Delta (Radtke 1966; Klimley et al. 2015). Post-spawn fish behavior varies between holding for several months in the Sacramento River, then out-migrating in the fall or winter or moving out of the river quickly during the spring or summer months (Heublein et al. 2009). Post-spawn out-migration through the Delta is also variable, with some adults traveling to the Pacific Ocean in 2–10 days and others remaining in the estuary for months.

The species is known to migrate along the Feather River, which passes through the area of the Proposed Project site, and there have been recorded green sturgeon spawning events in the Feather River (Seesholtz et al. 2015). Green sturgeon feed and spawn along suitable substrate in the Feather River and therefore have a high potential to occur.

White Sturgeon

Like green sturgeon, white sturgeon are found from Ensenada, Mexico, to southeast Alaska. The San Francisco Estuary population of white sturgeon—the only reproducing population of white sturgeon in California—was previously classified as a Species of Special Concern by CDFW. On July 12, 2024, CDFW approved white sturgeon as a candidate species for listing as threatened under the CESA. Candidate species for listing under the CESA are granted full protections during the review process. Currently, there is no federal listing for white sturgeon.

White sturgeon primarily inhabit estuaries of large river systems, migrating to fresh water to spawn. Similar to green sturgeon, the spawning success of white sturgeon has been hindered by the construction of dams, such as Shasta Dam on the Sacramento River and Oroville Dam on the Feather River. Spawning in California's Central Valley is now limited to the Sacramento River between Knights Landing and Colusa (Moyle 2002; Moyle et al. 2015), with observations of periodic spawning in the Feather and San

Joaquin rivers (Beamesderfer et al. 2007; Jackson et al. 2016). Before spawning, white sturgeon move into the lower reaches of rivers during the winter and migrate upstream to spawning areas between December and early June (Moyle et al. 2015). Like green sturgeon, white sturgeon broadcast their eggs in deep, fast water over large cobble substrate, where the eggs settle into the interstitial spaces (Moyle 2002). Larvae hatch from eggs between 4 and 12 days after spawning if temperature conditions are optimal (Wang et al. 1985). Larvae and young of year forage and rear in riverine areas until they gain the ability to tolerate higher salinity concentrations (McCabe and Tracy 1994). The recruitment success of juvenile white sturgeon is correlated with high spring flows and Delta outflow. High spring flows during juvenile rearing (i.e., between April and July) assist in moving larval sturgeon downstream into suitable rearing habitat more quickly than years with low spring flows (Stevens and Miller 1970).

White sturgeon typically inhabit deep water over soft bottom substrates, feeding on or near the bottom (Moyle 2002). White sturgeon remain in the San Francisco Estuary throughout most of their life (Klimley et al. 2015), but more evidence is showing that white sturgeon may move into marine environments as well (Schaffter 1997).

The species is known to migrate along the Feather River, which passes through the Proposed Project site. White sturgeon feed and may spawn along suitable substrate in the river and therefore have a moderate potential to occur within the Proposed Project site.

Central Valley Steelhead Distinct Population Segment

Central Valley steelhead was federally listed as threatened on March 19, 1998 (National Marine Fisheries Service 1998). The threatened status of this species was reaffirmed in NMFS's final listing determination on January 5, 2006 (National Marine Fisheries Service 2006b). On September 2, 2005, NMFS designated critical habitat for Central Valley steelhead (National Marine Fisheries Service 2005a), which includes the Feather River within the Proposed Project site.

Historically, steelhead spawned and reared in most of the accessible upstream reaches of Central Valley rivers and many of their tributaries. Compared to Chinook salmon, steelhead generally migrated farther into tributaries and headwater streams where cool, well-oxygenated water is available year-round.

The upstream migration of adult steelhead historically started in July, peaked in the early fall, and continued through March. Central Valley steelhead spawn mainly from January through March, but spawning has been reported from late December through April (McEwan and Jackson 1996). During spawning, the female digs a redd (gravel nest) in which she deposits her eggs, which are then fertilized by the male. Steelhead fry usually emerge from the gravel 2–8 weeks after hatching, between February and May, sometimes extending into June (Barnhart 1986; Reynolds et al. 1990). Newly emerged steelhead fry move to shallow, protected areas along streambanks but move to faster, deeper areas of the river as they grow. Juvenile steelhead feed on a variety of aquatic and terrestrial insects and other small invertebrates. Juvenile steelhead rear throughout the year and may spend 1–3 years in fresh water before emigrating to the ocean. Smoltification, the physiological adaptation that juvenile salmonids undergo to tolerate saline waters, occurs in juveniles as they begin their downstream migration. Smolting steelhead generally emigrate from March to June (McEwan 2001).

The Proposed Project site overlaps the Feather River, where steelhead are known to occur. They feed in the river and may use suitable gravel areas for spawning and therefore have a high potential to occur within the Proposed Project site.

Central Valley Spring-Run Chinook Salmon Evolutionarily Significant Unit

The Central Valley spring-run Chinook salmon evolutionarily significant unit (ESU) was federally listed as threatened on September 16, 1999 (National Oceanic and Atmospheric Administration 1999). The species' threatened status was reaffirmed in NMFS's final listing determination issued on June 28, 2005 (National Marine Fisheries Service 2005b). NMFS designated critical habitat for Central Valley spring-run Chinook salmon on September 2, 2005 (National Marine Fisheries Service 2005a), which includes the Feather River within the Proposed Project site. Essential Fish Habitat (EFH) is also designated for this species. EFH is defined as those waters and substrate necessary for spawning, breeding, feeding, or growth to maturity. EFH includes currently and historically accessible habitat, including the Proposed Project site.

Historically, spring-run Chinook salmon occupied the upstream reaches of all major river systems in the Central Valley where no natural barriers existed. By the 1950s, however, populations in the San Joaquin River had been extirpated (Yoshiyama et al. 1998). Loss of access and holding areas with the construction of dams was a major contributing factor. Similarly, abundance of spring-run in the Sacramento River has been in decline, with only remnant runs occurring in Butte, Mill, and Deer creeks of the upper Sacramento River (Williams et al. 2016).

Adult spring-run Chinook salmon begin their upstream migration in March, with peak upstream migration occurring from May through June and ending in September. Spring-run Chinook salmon are sexually immature during upstream migration, and adults hold in deep, cold pools near spawning habitat until spawning commences in late summer and fall. Spring-run Chinook salmon spawn in the upper reaches of the mainstem Sacramento River and tributary streams (U.S. Fish and Wildlife Service 1995). Adult spring-run Chinook salmon are defined as Chinook salmon that have spent at least one winter in the ocean and express a migration behavior of entering the Feather River during April, May, and June while sexually immature (Cavallo et al. 2011). Hatchery-origin spring-run Chinook salmon are additionally identified by adipose fin clip, coded wire tag, Hallprint tag, genetic based tag, or other marker indicating stock/hatchery of origin. Spawning typically begins in late August and may continue through October. Juveniles emerge in November and December in most locations but may emerge later when water temperature is cooler. Spring-run Chinook salmon exhibit a strong "stream-type" life history, which is dependent upon year-round cool freshwater habitat; as such, ideal spawning locations for these runs are found in higher elevation stream reaches where year-round cool water is found (Moyle et al. 2015).

In the upper Sacramento River and lower Feather River, significant hybridization between spring-run and fall-run has occurred (Cavallo et al. 2011). Spring-run Chinook salmon broodstock are collected in a manner that minimizes introgression with fall-run Chinook salmon. The FRFH minimizes straying and related genetic introgression of hatchery-origin spring-run Chinook salmon with natural-origin spring-run Chinook salmon from the Yuba River and other out-of-basin areas (Cavallo et al. 2011).

The Proposed Project site overlaps the Feather River, which is a known migration corridor and spawning area for the species. Therefore, spring-run Chinook salmon have a high potential to occur within the Proposed Project site.

Central Valley Fall-/Late Fall–Run Chinook Salmon Evolutionarily Significant Unit

Runs by the Central Valley fall-/late fall–run Chinook salmon ESU are currently the most abundant and "secure" salmon runs in California (Yoshiyama et al. 1998). This species is not listed under the FESA. On March 9, 1998, NMFS issued a proposed rule to list fall-run Chinook salmon as threatened (National Oceanic and Atmospheric Administration 1999). However, on September 16, 1999, NMFS determined that the species did not warrant listing (National Oceanic and Atmospheric Administration 1999). On April 15, 2004, NMFS classified the Central Valley fall-/late fall–run Chinook salmon as a species of concern (National Marine Fisheries Service 2004). Additionally, EFH is designated for this species. EFH includes currently and historically accessible habitat, including the Proposed Project site. CDFW has also designated this species as a California Species of Concern.

Adult fall-run Chinook salmon migrate into the Sacramento River and its tributaries from June through December in mature condition and spawn from late September through December, soon after arriving at their spawning grounds (Yoshiyama et al. 1998). The spawning peak occurs in October and November. Emergence occurs from December through March, and juveniles migrate downstream to the ocean soon after emerging, rearing in fresh water for only a few months. Smolt out-migration typically occurs from March through July (Yoshiyama et al. 1998).

Late fall–run Chinook salmon migrate upstream before they are sexually mature and hold near spawning grounds for 1–3 months before spawning. Upstream migration takes place from October through April and spawning occurs from late January through April, with peak spawning occurring in February and March (Yoshiyama et al. 1998). Fry emerge from April through June. Juvenile late fall–run Chinook salmon rear in their natal streams during the summer, and they remain in some streams throughout the year. Smolt out-migration can occur from November through May (Yoshiyama et al. 1998).

The Proposed Project site overlaps the Feather River, which is a known migration corridor and spawning area for fall-/late fall–run Chinook salmon. Therefore, fall-/late fall–run Chinook salmon have a high potential to occur within the Proposed Project site.

Central California Roach

Central California roach are not listed under the CESA or FESA but are considered a California Species of Special Concern. The Central California roach is a small, stout-bodied minnow (cyprinid) with a narrow caudal peduncle and a deeply forked tail. This is a subspecies of California roach (*Lavinia symmetricus*). The Central California roach consists of many populations that are isolated to varying degrees. This isolation was partially natural because roach populations seem to become easily isolated from one another and adapted to local conditions (Brown et al. 1992). The Central California roach is found in small, warm tributaries and larger streams that flow through open foothill woodlands of oak and foothill pine. Their historic distribution in the upper Sacramento River basin, including the Feather River, is poorly understood, but they are frequently located in the same region that contains the pikeminnow-hardhead-sucker assemblage.

Spawning activity is largely dependent on temperature and typically occurs in March through early July, when water temperatures exceed 16 degrees Celsius (°C). Spawning occurs in riffles over small rock substrates, 3–5 centimeters in diameter. Roach spawn in large groups over coarse substrates where each female repeatedly deposits eggs a few at a time into the interstices between rocks, and the eggs are immediately fertilized by one or more attendant males. Eggs hatch after 2–3 days and larvae remain in the gravel until large enough to actively swim. Larval drift may be a significant form of dispersal for roach (Moyle et al. 2015).

The Proposed Project site overlaps the Feather River, which may contain suitable spawning habitat. Therefore, Central California roach have a moderate potential to occur within the Proposed Project site given the potential seasonal use of this habitat.

Sacramento Splittail

Sacramento splittail are not listed under the CESA or FESA but are considered a California Species of Special Concern. Sacramento splittail are a relatively large, long-lived cyprinid, endemic to the sloughs, lakes, and rivers of the Central Valley (Moyle 2002) and most typically found in tidally influenced freshwater and estuarine habitats (e.g., the Delta and Suisun Bay) with salinities as high as 10–18 parts per thousand (Moyle et al. 2004). Non-breeding splittail can survive wide fluctuations in temperature and low dissolved oxygen levels (less than 1 milligram of oxygen per liter), allowing them to live in slow-moving sections of rivers and sloughs (Moyle et al. 2004).

Adult Sacramento splittail begin a gradual upstream migration toward spawning areas sometime between late November and late January. Sacramento splittail spawn and rear on terrestrial vegetation and debris on floodplains inundated by high spring flows from late February through April (Moyle 2002). In wet years, Sacramento splittail may migrate up the Sacramento River as far as the Red Bluff Diversion Dam and into the lower Feather and American rivers (Moyle 2002). Spawning is associated with conditions such as changing water levels, lower water temperatures, and increasing length of day (Moyle et al. 2004). Captures of larval Sacramento splittail indicate that an important spawning area may be in the Sacramento River between the mouths of the American and Feather rivers (U.S. Fish and Wildlife Service 1996). The lower Feather River spans historical and present-day habitat for Sacramento splittail; therefore the species has a moderate potential to occur within the Proposed Project site.

Critical Habitat

"Critical habitat" is defined in Section 3(5)A of the FESA as a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection if occupied by threatened or endangered species. Three designated critical habitats are present within the Proposed Project site, as described below.

North American Green Sturgeon Critical Habitat

Designated critical habitat for the southern DPS of green sturgeon includes the Sacramento River; the Delta; and Suisun, San Pablo, and San Francisco bays below the mean higher high-water line (National Marine Fisheries Service 2009).

Central Valley Spring-Run Chinook Salmon Critical Habitat

Designated critical habitat for spring-run Chinook salmon includes all river reaches accessible in the Sacramento River and its tributaries in California; all waters from Chipps Island westward to the Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and the Carquinez Strait; all waters of San Pablo Bay westward of the Carquinez Bridge; and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge (National Marine Fisheries Service 2005a).

Central Valley Steelhead Critical Habitat

Designated critical habitat for Central Valley steelhead includes the stream channels in the designated stream reaches and the lateral extent as defined by the mean higher high-water line in the Sacramento and San Joaquin rivers, their tributaries, and the Delta (National Marine Fisheries Service 2005a).

3.7.4 Regulatory Setting

Federal and State regulations discussed in Section 3.6.3, "Regulatory Setting," of Section 3.6, "Biological Resources–Aquatic," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO PEIR.

Federal

Endangered Species Act

See Section 3.6, "Biological Resources—Terrestrial," for a description of the FESA.

NMFS Programmatic Biological Opinion for the Central Valley

On August 31, 2018, NMFS issued a programmatic biological opinion (PBO) for restoration projects in the Central Valley. This PBO provides FESA coverage for several categories of restoration project types, where "restoration project" is defined as one that would result in a net increase in aquatic or riparian resource functions and services. Projects permitted by the PBO may include multiple benefits, such as flood management, groundwater recharge, recreation, or climate change adaptation. All permitted projects must meet the criteria of a restoration project defined by the PBO and must remain consistent with NMFS's recovery plans. Avoidance and minimization measures are also described in the PBO and must be included in the proposed projects, as applicable.

Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (United States Code [USC] Title 16, Section 1801 et seq. [16 USC Section 1801 et seq.]), NMFS, fishery management councils, and federal agencies are required to cooperatively protect Essential Fish Habitat (referred to herein as "EFH") for commercially important fish species such as Pacific coast groundfish, Pacific salmon, highly migratory species, and coastal pelagic fish and squid.

As defined by the U.S. Congress, EFH includes "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 USC Section 1802—Definitions [10]).

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. See Section 3.10, "Hydrology and Water Quality," for a detailed description of the CWA.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC Section 651 et seq.), as amended in 1964, was enacted to protect fish and wildlife when federal actions control or modify a natural stream or body of water. The law requires federal agencies to consider the effect of water-related projects on fish and wildlife resources. The agencies must consult and coordinate with USFWS and State fish and game agencies to identify ways to prevent the loss of and damage to fish and wildlife resources, and to further develop and improve these resources.

National Invasive Species Act of 1996

The National Invasive Species Act (Public Law 104-332) reauthorized and amended the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. The 1996 law mandated regulations to reduce environmental and economic impacts from invasive species and prevent the introduction and spread of aquatic nuisance species, primarily through ballast water.

In recent years, the U.S. Environmental Protection Agency (EPA) has joined the U.S. Coast Guard in regulating discharges of ballast water in the United States. Since February 2009, EPA has regulated ballast water, and other discharges incidental to normal vessel operations, under Section 402 of the CWA. U.S. Coast Guard regulations, developed under the National Invasive Species Act, generally require ballast-water management (i.e., exchange) for vessels entering U.S. waters from outside of the 200-nautical-mile Exclusive Economic Zone of the U.S. The National Invasive Species Act also authorizes funding for research on the prevention and control of aquatic nuisance species in San Francisco Bay and the Delta, along the Pacific coast, and elsewhere in the United States.

Executive Order 13112: Invasive Species

Executive Order 13112 (February 3, 1999) directs federal agencies to prevent and control the introduction and spread of invasive non-native species in a cost-effective, environmentally sound manner to minimize their effects on economic, ecological, and human health. The executive order builds on existing laws, such as the National Environmental Policy Act, the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Lacey Act, the Plant Pest Act, the federal Noxious Weed Act, and the FESA.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.), enacted in 1969, articulates the federal CWA. The State Water Resources Control Board (State Water Board) and regional water quality control boards (referred to collectively herein as "Boards") are the State agencies with

primary responsibility for the coordination and control of water quality. See Section 3.6, "Biological Resources—Terrestrial," and Section 3.10, "Hydrology and Water Quality," for detailed descriptions of the Porter-Cologne Water Quality Control Act.

California Endangered Species Act

The CESA was enacted in 1984. Under the CESA, the California Fish and Game Commission has the responsibility for maintaining a list of threatened and endangered species. Pursuant to CESA requirements, an agency reviewing a project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present on the project site and whether the project would have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any project that may affect a candidate species. The CESA prohibits the take of California-listed animals and plants in most cases, but CDFW may issue incidental take permits for otherwise legal projects resulting in species take.

Project-related impacts on species identified on the CESA endangered or threatened list would be considered significant. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 2081. Authorization from CDFW would be in the form of an incidental take permit under Fish and Game Code Section 2801(b).

California Fish and Game Code

Lake and Streambed Alteration Agreement (Fish and Game Code Section 1602)

Fish and Game Code Section 1602 requires any person, government agency, or public utility proposing any activity that would divert or obstruct the natural flow or change the bed, channel, or bank of any river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFW of such proposed activity.

Fully Protected Species (Fish and Game Code Sections 3511, 4700, 5050, 5515)

Certain species are considered "fully protected," meaning that the code explicitly prohibits all take of individuals of these species, except for take permitted for scientific research. Section 5050(a)(1) lists fully protected amphibians and reptiles, Section 5515(a)(1) lists fully protected fish, Section 3511(a)(1) lists fully protected birds, and Section 4700(a)(1) lists fully protected mammals. Except as provided in Sections 2081.7 and 2835, fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take, except for collecting these species for necessary scientific research and relocation of the species for the protection of livestock.

Take Prohibition (Fish and Game Code Sections 86, 2080)

Fish and Game Code Section 86 defines "take" and Section 2080 prohibits "taking" of a species listed as threatened or endangered under the CESA (Fish and Game Code Section 2080) or otherwise fully protected, as defined in Fish and Game Code Sections 3511, 4700, and 5050.

Safe Harbor Agreements (Fish and Game Code Section 2089.2)

See Section 3.6, "Biological Resources—Terrestrial," for a description of the Safe Harbor Agreements.

The Salmon, Steelhead Trout, and Anadromous Fisheries Program Act (Fish and Game Code Sections 6900–6930)

The Salmon, Steelhead Trout, and Anadromous Fisheries Program Act was enacted in 1988 after CDFW reported that the natural production of salmon and steelhead in California had declined dramatically since the 1940s, primarily as a result of lost stream habitat on many of the state's streams.

This law declares that it is State policy to increase the state's salmon and steelhead resources, and directs CDFW to develop a plan and program that strives to double the salmon and steelhead resources (Fish and Game Code Section 6902[a]). The law also establishes a State policy that existing natural salmon and steelhead habitat shall not be diminished further without offsetting the impacts of lost habitat (Fish and Game Code Section 6902[c]).

California Aquatic Invasive Species Management Plan (Fish and Game Code Sections 2300–2302)

The California Aquatic Invasive Species Management Plan provides information for State agencies and other entities to use when they collaborate to fight aquatic invasive species. The plan proposes management actions for addressing threats posed by aquatic invasive species in California. It focuses on the non-native algae, crabs, clams, fish, plants, and other species that continue to invade California's creeks, wetlands, rivers, bays, and coastal waters.

State Wildlife Action Plan

Each state develops a state wildlife action plan to serve as the comprehensive wildlife conservation strategy required for the receipt of federal funds through the State and Tribal Wildlife Grants Program. California last updated its plan in 2015. The State Wildlife Action Plan provides a blueprint for the actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources. Implementation of this plan relies on making important and helpful conservation information more accessible to resources managers and the public, and on developing lasting partnerships with a broad array of governments, agencies, organizations, businesses, and citizens.

Habitat Restoration and Enhancement Act

The Habitat Restoration and Enhancement Act of 2014 is an expedited permitting process with CDFW for landowners, State and local government agencies, and conservation organizations wanting to implement small-scale, voluntary habitat restoration projects across California. Restoration and enhancement projects approved by CDFW, pursuant to this law, do not require additional permits from CDFW, such as a Lake or Streambed Alteration Agreement or CESA permit.

As defined by the Habitat Restoration and Enhancement Act, habitat restoration or enhancement projects are projects with the primary purpose of improving fish and wildlife habitat and meet the eligibility requirements for the State Water Board's Order for Small Habitat Restoration Projects. Projects approved under the Habitat Restoration and Enhancement Act must meet the current size limitations in the State Water Board's Order for Small Habitat Restoration Projects, be consistent with widely recognized restoration practices, and avoid or minimize any incidental impacts.

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(d) provides that a species not identified on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet the specific criteria of a rare or endangered species.

CEQA also specifies the protection of other locally or regionally significant resources, including sensitive wildlife natural communities or habitats (14 CCR Section 15206[b][5]). Unoccupied habitat does not merit protection under the FESA or CESA, but CEQA requires an assessment of such communities and potential project impacts. Natural communities that are identified in the CNDDB as sensitive are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts.

Regional and Local

Sutter County General Plan

See Section 3.6, "Biological Resources—Terrestrial," and Section 3.11, "Hydrology and Water Quality," for the goals in the Sutter County General Plan that are applicable to the Proposed Project.

Yuba County General Plan

See Section 3.6, "Biological Resources—Terrestrial," for the goals in the Yuba County General Plan that are applicable to the Proposed Project.

Yuba Sutter Regional Natural Communities Conservation Plan/Habitat Conservation Plan

The Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan is a cooperative planning effort initiated by Yuba and Sutter counties in connection with improvements to State Routes 99 and 70 and future development in the area surrounding those highways. The planning area currently encompasses most of these two counties. The draft plan currently covers four different plant species and 15 wildlife species. Because the Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan is still in development, there are no requirements for compliance.

3.7.5 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to aquatic biological resources is considered significant if the Proposed Project would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any fish species identified as a candidate, sensitive, or special-status fish species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- 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.

Impacts related to the following significance thresholds are addressed in Section 3.6, "Biological Resources–Terrestrial":

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW or USFWS.
- Have a substantial adverse effect on State and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to aquatic biological resources associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and constructed facilities and operations and maintenance activities (long-term, permanent).

Impacts and Mitigation Measures

Table 3.7-2 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.7-2
SUMMARY OF IMPACT CONCLUSIONS—AQUATIC BIOLOGICAL RESOURCES

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.7-1: Implementation of the Proposed Project could result in substantial adverse effects on special-status fish species directly, or indirectly through habitat modifications.	LTSG/S	LTSG/S
3.7-2: Implementation of the Proposed Project could result in substantial adverse direct effects on the movement of native resident or migratory fish.	LTSG/S	B

Notes: B = beneficial; LTSG/S = less than significant with implementation of the general protection measures and species protection measures
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.7-1: Implementation of the Proposed Project could result in substantial adverse effects on special-status fish species directly, or indirectly through habitat modifications. (Final SRGO Program EIR Impact 3.6-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for construction activities for restoration projects to affect special-status fish species directly, or indirectly through habitat modifications. The Final SRGO Program EIR evaluated the following construction activities: installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; removal of legacy structures; installation of cofferdams and dewatering during construction; operation of construction equipment; excavation and placement of materials in river; and bank stabilization. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials.

The Final SRGO Program EIR found that these activities could result in temporary impacts on listed fish species and their habitat. Temporary impacts described in the Final SRGO Program EIR include physical disturbance to habitat; release and exposure of sediments and turbidity; noise, motion, and vibration disturbance; disturbance of riparian vegetation; release and exposure of construction-related contaminants; and direct effects from dewatering and fish relocation activities (see Final SRGO Program EIR Section 3.6.4). The Final SRGO Program EIR identified the following general protection measures and species protection measures when applicable to a given project, to reduce the impacts of project construction activities during in-water work (such as from mobilization of sediment, pile driving, release and exposure of construction-related contaminants, dewatering and relocating fish): GPM-2 through GPM-5, GPM-10, IWW-1 through IWW-13, VHDR-1 through VHDR-7, VHDR-8g, WQHM-1 through WQHM-6, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also **Appendix B**.)

Given the uncertainty regarding whether impacts on special-status fish species and disturbance of habitat could be avoided during construction activities where explosives are used for small dam removal, the Final SRGO Program EIR determined that this impact would be significant and unavoidable. However, the Final SRGO Program EIR found that the general protection measures and species protection measures identified above would avoid and/or reduce other potential impacts to a less-than-significant level. No mitigation measures were identified in the Final SRGO Program EIR (see Final SRGO Program EIR Section 3.6.4).

Consistent with the types of construction activities evaluated by the Final SRGO Program EIR, construction of the Proposed Project would require the following: site preparation and mobilization/ demobilization; use of staging areas, barges, access routes, and haul routes; grading, excavation, and material placement; installation of fish-screened pumps; removal of structures; and installation of temporary cofferdams via pile driving.

Weir removal, bank stabilization, and cofferdam installation would occur during the designated work window of July 15–September 30, when salmonids and sturgeon are not expected to be present within the Proposed Project site, as determined in the NMFS PBO for Central Valley restoration (National Marine Fisheries Service 2018b). However, these activities could result in temporary impacts on special-status fish species, including Chinook salmon, steelhead, and green sturgeon.

Potential impacts on listed fish—specifically sediment disturbance, increased turbidity, and noise from piling driving—would be temporary and would occur during periods when fish are not expected to be present within the Proposed Project site. In addition, dewatering of the work area may lead to direct take of special-status fish through stranding and impingement, and indirect take through temporary loss, alteration, and temporary reduction of aquatic habitat for special-status fish. However, dewatered areas would be dry temporarily and would return to normal conditions upon completion of the construction activities. In addition, to avoid direct physical injury to special-status fish, sheetpile installation would be conducted using a vibratory or impact hammer and would be managed to avoid exceeding the thresholds established by NMFS (Fisheries Hydroacoustic Working Group 2008).

As described in the Construction Activities section of Chapter 2, “Project Description,” Section 2.4.5, temporary pumps would be installed upstream of the cofferdam work area to maintain SEWD water deliveries during construction. To meet the requirements needed for deliveries, the pumps may be unscreened, which would have the potential to cause direct loss of fish through entrainment. However, the temporary pumps would be operated during the in-water work window, July 15–September 30, when juvenile salmonids are not expected to be present within the Proposed Project site. Therefore, entrainment is not expected to occur.

Implementation of the applicable general protection measures and species protection measures described in the Final SRGO Program EIR would further reduce potential impacts of construction activities on listed fish and their associated habitat. The general protection measures and species protection measures would minimize potential impacts of dewatering, fish relocation, and temporary diversion during construction; they would also minimize potential degradation of aquatic habitat and resulting harm to special-status fish from introduced contaminants, release of sediments, and noise.

The following general protection measure and species protection measures are applicable to the Proposed Project: GPM-2, GPM-4, GPM-5, GPM-10, IWW-1 through IWW-6, IWW--8 through IWW-10, IWW-12, WQHM-1 through WQHM-6, VHDR-1, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also Appendix B.) Therefore, this impact would be ***less than significant with implementation of the general protection and species protection measures***.

Construction activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.6, "Biological Resources–Aquatic," Section 3.6.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts related to adverse effects on special-status fish species that could occur directly, or indirectly through habitat modifications.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for constructed facilities and operations and maintenance activities to affect special-status fish species directly, or indirectly through habitat modifications. The Final SRGO Program EIR determined that for all restoration project types, the resulting restored and/or enhanced habitat is expected to have beneficial impacts on aquatic resources by increasing the quality and quantity of habitat for special-status fish species (see Final SRGO Program EIR Section 3.6.4).

The Final SRGO Program EIR did not contain any general protection measures for the constructed facilities. However, temporary impacts could occur during maintenance activities for projects that would leave infrastructure at project sites after construction (e.g., stream crossings, fish passage improvements, and water conservation projects). Those structures would require operations and maintenance, which could lead to limited, ongoing adverse impacts on special-status fish species. The Final SRGO Program EIR found that operations and maintenance activities may lead to temporary mobilization of sediment, ground disturbance, chemical contamination, or vegetation removal. The Final SRGO Program EIR found this impact to be potentially significant overall (see Final SRGO Program EIR Section 3.6.4). The general protection measures and species protection measures described above under "Effects of Construction Activities" were found to reduce potential impacts to a less-than-significant level.

Consistent with the Final SRGO Program EIR, once constructed, the Proposed Project's restoration elements (i.e., weir removal and river restoration) are expected to be beneficial for special-status fish species compared to existing conditions. The quality and quantity of habitat would increase. However, operation of the pump station may affect special-status fish species through entrainment and impingement risk and direct impacts during maintenance activities.

Specifically, operation of the pump station as part of the Proposed Project has the potential to entrain or impinge listed fish species, such as out-migrating juvenile salmonids swimming or feeding adjacent to the intake when water is pumped from the river into the pump station. As described in Chapter 2, "Project Description," the pump station would be fitted with a conical fish screen designed to meet standards established in accordance with CDFW and NMFS fish screening criteria (California Department of Fish and Wildlife 2002; National Marine Fisheries Service 2022). The screens would be designed to have an

approach velocity of 0.33 foot per second and wire screens with slot size of 1.75 millimeters (mm). Calculations suggest that a 1.75-mm screen opening size would be effective at excluding juvenile salmonids of 22 mm standard length and greater (ICF International 2016), which is the equivalent of around 25 mm fork length. Therefore, this would be expected to exclude all juvenile salmonids present in the vicinity of the pump station. Thus, entrainment of juvenile salmonids is not expected to occur.

Maintenance activities for the Proposed Project would involve the removal of sediment and debris that may accumulate near the pump station and proposed fish screens. As described in Section 2.4.7, the fish screen and pump station would include a pumped water jet system that would prevent sediment from accumulating. The jets would spray water on the fish screens and pump bays to resuspend settled and accumulated sediment to be pumped back out into the main canal or river.

Furthermore, the fish screens would be self-cleaning but would require routine maintenance and inspection in accordance with the manufacturer's recommendations. Maintenance actions would involve the periodic removal of excess accumulated sediment, vegetation, or other debris around the fish screens to ensure that the system operates at its design capacity and that fish passage hydraulic criteria are being achieved.

Maintenance activities could release sediments into the aquatic portions of the Proposed Project site. Suspended sediments in the water column would have the potential to affect listed fish by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions. Increased suspended solids could also affect aquatic organisms by reducing dissolved oxygen levels and light transmission, and when the sediment in the suspended solids resettles, it could potentially smother aquatic habitats and organisms. Research with salmonids has shown that high turbidity concentrations can reduce feeding efficiency, decrease food availability, reduce dissolved oxygen in the water column, result in reduced respiratory functions and tolerance to diseases, and cause fish mortality (Berg and Northcote 1985; Gregory and Northcote 1993; Velagic 1995; Waters 1995).

However, much of the research mentioned previously focused on much higher turbidity levels than those likely to result from the proposed maintenance activities, especially with implementation of the Final SRGO Program EIR's general protection measures. In addition, proposed maintenance activities would generally occur during the designated in-water work window (e.g., July 15–September 30). Therefore, the small pulses of moderately turbid water expected from proposed maintenance activities would likely cause only minor physiological and behavioral effects, such as dispersing listed fish from established territories, and temporarily increasing interspecific and intraspecific competition and local predation risk for the small number of affected fish.

Furthermore, turbidity increases would be relatively brief and generally confined to within a few hundred feet of the activity. Turbidity levels would initially be higher than baseline levels, but the sediment would disperse and be re-deposited, and background levels would be expected to be restored within hours of the disturbance. Therefore, fish would be able to use their preferred habitats and continue their normal migration routes in a matter of hours. Maintenance activities could accidentally introduce contaminants such as fuels, oils, hydraulic fluids, and other chemicals/compounds into the wetted environment, either directly through construction equipment spills or incrementally through surface runoff from haul routes and staging areas. Such changes to aquatic habitats could affect fish by altering water temperature, pH, clarity, or chemical composition, as well as stream substrates, most likely by introducing silt, sand, soil,

or gravel. These alterations could render otherwise suitable habitat unsuitable for fish at least temporarily, or they could introduce contaminants that would affect fish health, reproductive success, and juvenile survival.

To minimize the potential effects of runoff from maintenance activities on receiving water quality, the species protection measures (see "Effects of Construction Activities") described in the Final SRGO Program EIR would be implemented. Additionally, maintenance activities would generally occur during the designated in-water work window between July 15 and September 30, when special-status fish are least likely to be present. The frequency may vary based on (1) the type of water year (e.g., very dry or very wet), (2) the rate at which sediment and debris accumulate at the site, and (3) the effects of the magnitude of sediment and debris accumulation on conveyance capacity, energy dissipation, and fish passage conditions. As with current conditions, emergency repairs may be necessary after major storms, although these occurrences are expected to be rare.

As described previously, the constructed facilities and operations and maintenance activities for the Proposed Project have the potential to affect listed fish species and their associated habitat. Effects on special-status fish species from the constructed facilities may lead to entrainment and impingement risks. However, screens would be designed to be protective of the most vulnerable special-status fish species, juvenile salmonids, thus reducing the entrainment risk. Furthermore, effects on special-status fish species from operations and maintenance activities may lead to sediment disturbance and increased turbidity that are expected to be relatively brief and confined. The Final SRGO Program EIR identified the following general protection measures and species protection measures that are applicable to the Proposed Project: GPM-2, GPM-4, GPM-5, IWW-1 through IWW-4, IWW-13, WQHM-1 through WQHM-4, WQHM-6, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also Appendix B.) Implementation of these measures would reduce potential impacts from operations and maintenance activities on special-status fish species and their associated habitat. Therefore, this impact would be ***less than significant with implementation of the general protection and species protection measures***.

Constructed facilities and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.6, "Biological Resources–Aquatic," Section 3.6.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the effects of constructed facilities and operation and maintenance activities related to adverse effects to special-status fish species directly, or indirectly through habitat modifications.

Impact 3.7-2: Implementation of the Proposed Project could result in substantial adverse direct effects on the movement of native resident or migratory fish. (Final SRGO Program EIR Impact 3.6-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities on the movement of native resident or migratory fish. The Final SRGO Program EIR found that construction-related impacts on fish movement are expected to be minimal and temporary.

Therefore, the impact of Project construction activities on fish movement would be less than significant. The Final SRGO Program EIR did not contain any general protection measures applicable to this impact (see Final SRGO Program EIR Section 3.6.4).

Consistent with the types of construction activities evaluated by the Final SRGO Program EIR, construction of the Proposed Project would require the following: site preparation and mobilization/ demobilization; use of staging areas, barges, access routes, and haul routes; grading, excavation, and material placement; installation of fish-screened pumps; removal of structures; and installation of temporary cofferdams via pile driving.

Project construction activities could temporarily affect fish movement. For example, installing a cofferdam to facilitate construction would have the potential to temporarily impede or delay migrating adults and juveniles, limiting their ability to reach spawning and/or rearing areas. Installing a cofferdam could also hinder migration by juveniles, potentially exposing them to increased predation and unsuitable aquatic habitat conditions. However, because the cofferdam would not block the entire width of the river, the movement of juvenile or adult fishes is unlikely to be significantly affected. Also, in-water work would occur during the designated work window of July 15–September 30, when special-status fish are least likely to be present within or near the Proposed Project site.

Despite minor, temporary impacts, weir removal and river restoration would result in improved fish passage conditions for salmonids and green sturgeon. As described in Chapter 2, Section 2.4.1, "Sunset Weir Removal and Feather River Restoration," after weir removal, the Feather River channel at the Proposed Project site would be graded to meet natural grade and allow for more natural riverine morphology compared to existing conditions. Weir removal and restoration would restore natural fish passage conditions for the Feather River, providing unimpeded passage to important upstream spawning habitat for green sturgeon and salmonids.

The following general protection measure and species protection measures are applicable to the Proposed Project: GPM-2, GPM-4, GPM-5, GPM-10, IWW-1 through IWW-6, IWW-8 through IWW-10, IWW-12, WQHM-1 through WQHM-6, VHDR-1, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also Appendix B.) Therefore, the impact on the movement of native and migratory fish would be ***less than significant with implementation of the general protection measures and species protection measures***.

Construction activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.6, "Biological Resources–Aquatic," Section 3.6.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed potential adverse effects on the movement of native resident or migratory fish.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include potential impacts of constructed facilities and operations and maintenance activities on the movement of native

resident or migratory fish. The Final SRGO Program EIR found that the long-term effects of restoration projects would be beneficial or neutral. The specific purpose of all project types would be to restore and enhance existing conditions that contribute to degradation of fish habitat. Therefore, the Final SRGO Program EIR found that impacts on fish movement from constructed facilities and operations and maintenance of restoration projects would be beneficial. The Final SRGO Program EIR did not contain any general protection measures or species protection measures applicable to this impact (see Final SRGO Program EIR Section 3.6.4).

Related to the Proposed Project, the Final SRGO Program EIR determined that removing artificial structures, improving fish passage, restoring habitat, and revegetating with native plants would all provide benefits for the migration of native fishes, either directly by creating new passage or indirectly by creating more suitable habitat, thus providing an improved migratory corridor for fish. As described previously, the Proposed Project is expected to reduce entrainment risk for native fish species, thereby providing better conditions for native fish movement within the Proposed Project site (see the analysis presented in Impact 3.7-1 for additional details). Maintenance activities are expected to inhibit fish movement locally; however, similar to the effects described under "Effects of Construction Activities" in Impact 3.7-1 above, the impact would be temporary and isolated to in-water maintenance areas. Therefore, the effects of constructed facilities and operations and maintenance activities would be ***beneficial*** to the movement of native resident or migratory fish.

The constructed facilities and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR Section 3.6, "Biological Resources–Aquatic," Section 3.6.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed potential adverse effects on the movement of native resident or migratory fish.

3.8 Cultural Resources

3.8.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to cultural resources. The environmental setting and the evaluation of potential impacts on cultural resources, including archaeological resources, rely on the information and findings presented in the confidential cultural resources report. The cultural resources report provides an environmental, ethnographic, and historic background of the Proposed Project site, with an emphasis on aspects related to human occupation settlement patterns. Detailed results of the cultural resources investigation can be found in the report, included as confidential **Appendix F**.

Consistent with the Final SRGO Program EIR, the term "cultural resource" is defined as follows:

> *Indigenous and historic-era sites, buildings, structures, districts, and landscapes, or other evidence associated with human activity considered of value to a culture, a subculture, or a community for scientific, traditional, religious, or other reason. These resources include the following types of CEQA-defined resources: historical resources, archaeological resources, and human remains.*

CEQA Guidelines Section 15064.5 defines the term "historical resource" as follows:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (California Register).
- A resource included in a local register of historical resources, as defined in California Public Resources Code (PRC) Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and PRC Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines (PRC Section 15000 et seq.), the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

The term "indigenous," rather than "prehistoric," is used as a synonym for "Native American–related" (except when quoting). "Pre-contact" is used as a chronological adjective to refer to the period before the arrival of Euro-Americans in the subject area. "Indigenous" and "pre-contact" are often but not always synonymous: The former term refers to a cultural affiliation and the latter is chronological.

This section also includes the key terms defined below.

- **Architectural Resource.** This resource type includes historic-era buildings, structures (e.g., bridges, canals, roads, utility lines, railroads), objects (e.g., monuments, boundary markers), and districts. Residences, cabins, barns, lighthouses, military-related features, industrial buildings, and bridges are some examples of architectural resources.
- **Archaeological Resource.** This resource type consists of indigenous, or pre-contact, and historic-era archaeological resources. If a resource is considered a ruin (e.g., a building lacking structural elements, a structure lacking a historic configuration), it is classified as an archaeological resource.
  - *Indigenous archaeological resources* consist of village sites, temporary camps, lithic scatters, roasting pits/hearths, milling features, petroglyphs, rock features, and burials. Associated artifacts include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs). Indigenous sites that were occupied into the historic era can have both pre-contact and historic-era artifacts.
  - *Historic-era archaeological resources* consist of townsites, homesteads, agricultural or ranching features, mining-related features, refuse concentrations, and features or artifacts associated with early military and industrial land uses. Associated artifacts include stone, concrete, or adobe footings and walls; artifact-filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

3.8.2 Environmental Setting

Data Sources

Environmental Science Associates (ESA) reviewed publicly available data, cultural resources data, and Proposed Project site–specific information. The following data sources assisted in this analysis:

- North Central Information Center (NCIC) and Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS)

ESA reviewed the following sources of historic maps and aerial photographs:

- The Library of Congress (https://www.loc.gov/).
- The David Rumsey Historical Map Collection (www.davidrumsey.com).
- The U.S. Geological Survey's TopoView (https://ngmdb.usgs.gov/topoview/).
- The University of California, Santa Barbara's FrameFinder database (https://mil.library.ucsb.edu/ap_indexes/FrameFinder/).
- Historicaerials.com (provided by Nationwide Environmental Title Research, LLC).

ESA reviewed ethnographic literature for the Proposed Project site and vicinity to gather information on potential Native American villages, place names, or documented use of the area. ESA consulted the following sources:

- *Handbook of the Indians of California* (Kroeber 1925 [1976]).

- *Handbook of North American Indians*, Vol. 8 (*California*) (Heizer 1978):
  - "Maidu and Konkow" (Riddell 1978).
  - "Nisenan" (Wilson and Towne 1978).
- *Ethnographic and Ethnohistoric Inventory of Konkow Maidu Cultural Places Oroville Facilities Relicensing* (McCarthy et al. 2004).
- "Names and Locations of Some Ethnographic Patwin and Maidu Indian Villages" (Heizer and Hester 1970).
- "Ethnology of the Nisenan" (Beals 1933).
- "Notes on the Southern Maidu" (Faye 1923).
- "The Valley Nisenan" (Kroeber 1929).
- "Nisenan Geography" (Littlejohn 1928).
- Historical maps:
  - *Diseño Rancho Boga* (Bidwell n.d.).
  - *Diseño Rancho Honcut* (Huber n.d.).
  - *The Sacramento Valley from the American River to Butte Creek* (Derby 1849).
  - *Map of Sacramento, Feather, and Yuba Rivers* (Cleal 1850).
  - *Plat of the Boga Rancho [Calif.]: finally confirmed to Thos. O. Larkin* (U.S. Surveyor General 1863).

Methods for Identification of Cultural Resources

ESA completed a records search at the North Central Information Center (NCIC) and Northeast Information Center (NEIC), the California Historical Resources Information System (CHRIS) repositories that cover the Proposed Project site and vicinity (within 0.25 mile). ESA requested NCIC and NEIC records searches of the Proposed Project site and vicinity in February, March, and July 2022; in June 2023; and in January 2025 (NCIC File Nos. YUB-22-9, NE23-306; NEIC File Nos. D22-63, D22-96, YUB-23-21, YUB254).

ESA obtained a cultural resources report from ICF International (2017) for the Feather River West Levee Project that was not on file at CHRIS, as well as information about cultural resources reports still being prepared for the project's implementation phase (Havelaar, pers. comm., 2022) that were not on file at CHRIS. ESA obtained the summary and archaeological data recovery reports for the Feather River West Levee Project, which provided details that allowed for a more robust analysis of the archaeological sensitivity and extent of sites (Rosenthal and White 2021a, 2021b).ESA contacted the NAHC on June 5, 2023, and requested a search of the NAHC's Sacred Lands File and a list of Native American representatives who may be traditionally and culturally affiliated with the geographic area of the Proposed Project. The NAHC's search of the of the Sacred Lands File yielded positive results and they provided the list of Native American representatives to ESA on June 28, 2023.

The surveys conducted within the Proposed Project site are summarized in the confidential *Sunset Weir and Pumps Fish Passage Project, Sutter and Yuba Counties, California: Archaeological and Architectural Resources Inventory Report* (confidential Appendix F), as described further below.

Existing Conditions for Cultural Resources

Physiography

The Proposed Project site is in the eastern Sacramento Valley, the northern division of California's Great Central Valley, a long depression between the Coast Ranges and the Sierra Nevada. Subdivided by the Sacramento–San Joaquin Delta (Delta) into the Sacramento Valley to the north and the San Joaquin Valley to the south, the Central Valley has a width of about 50 miles and is about 400 miles long overall (Norris and Webb 1990:412–417; Bartow 1991:1). The Sacramento Valley portion is a nearly flat alluvial plain that lies between the Sierra Nevada on the east and the Coast Ranges on the west. This plain is approximately 30 miles wide and 150 miles long and is drained by the Sacramento River, which, along with its tributaries, is the principal watershed for Northern California (California Geological Survey 2002:2). The Proposed Project site lies on either side of one of these main tributaries, the Feather River. The vicinity of the Proposed Project site is rural in character and the natural environment has been heavily influenced by agricultural development and water management infrastructure, including control and conveyance systems (e.g., levees, canals).

Geology and Soils

California's Central Valley is a basin or geologic trough that has filled with sediments accumulated as alluvial deposits washed out of the mountains during the last 5 million years. Sands and gravel thousands of feet deep lie upon Sierran basement rocks that extend downward at an angle from the western slope of the Sierra Nevada (Schoenherr 2017:453). The surficial geology of the Proposed Project site is composed mainly of Late Holocene natural levee and channel deposits of active watercourses and adjacent broad alluvial fans (Qa), although portions of the Proposed Project site on the west bank of the Feather River near the pump station may overlie Youngest Pleistocene alluvial terraces and fans (the Modesto Formation, Qm) (Saucedo and Wagner 1992). The Modesto Formation ranges in thickness from less than 10 feet along stream terraces to several hundred feet in the center of the Central Valley. This formation is often covered by later alluvium, such as the Holocene natural levees and channel deposits along the Feather River, which may be up to 30 feet thick. These alluvial deposits consist of a combination of un-weathered gravel, sand, and silt eroded from the Sierra Nevada (McManus et al. 2014:42–44).

The soils on the Proposed Project site are primarily Columbia fine sandy loam channeled, with 0 to 2 percent slopes, and smaller amounts of Holillipah and Shanghai series soils. The sections of the Proposed Project site on the west side of the river also include a small percentage of Tisdale series soils (6 percent), while the two sections of the Proposed Project site on the east side of the river are mapped as containing a small percentage of Feather series soils (5 percent). The Columbia series soils form in floodplains and natural levees and consist of fine sandy loam, with a tilled Ap horizon of 7–12 inches above an A horizon to a depth of 11–16 inches. Below that, a series of seven C horizons, ranging from silt loam to sand, extend down to a depth of 41–55 inches, covering an Ab horizon of dark gray silty clay to a depth of 55–59 inches. The Feather series soils are a silt loam formed in stream terraces and have a series of Ap, A, and four Ab horizons to a depth of 75 inches. The Tisdale series are clay loam soils formed in low stream terraces with Ap and A horizons to 11 inches, two Bt horizons to 31 inches, and a 2Cr horizon of siltstone

down to 40 inches. The Holillipah series are stratified loamy sands that form in floodplains and alluvial fans, with an A horizon to 8 inches, and four C horizons to a depth of 61 inches. The Shanghai series consist of fine silty loam formed in floodplains, with an Ap horizon to 11 inches, an A horizon to 21 inches, and four C horizons to a depth of 62 inches (University of California, Davis Soil Resource Lab 2024).

Flora and Fauna

Before Euro-American settlement of the area, the Proposed Project site would have consisted of oak savannas and broad gallery forests cut by the riparian corridors and seasonal wetlands surrounding the Feather River and its tributaries (Rosenthal et al. 2007). Common marsh flora species would have included tule rush, bullrush, cattails, sedges, other rushes, reeds, pondweed, knotweed, and yellow pond lily. Adjacent riparian woodland species would have included willow, buttonbush, California sycamore, Fremont's cottonwood, Oregon ash, black walnut, box elder, valley oak, white alder, California buckeye, big leaf maple, elderberry, grape vine, blackberry, and poison oak. Grassland flora would have included purple needlegrass, nodding needlegrass, blue wild rye, pine bluegrass, and deergrass, interspaced with valley oaks (Rosenthal and Meyer 2004).

Large populations of tule elk, pronghorn, and black-tailed deer would have been found on the Proposed Project site and in the vicinity before Euro-American settlement. Other prominent terrestrial fauna in the area would have included grizzly bear, puma, gray fox, bobcat, coyote, badger, spotted skunk, striped skunk, beaver, weasel, river otter, raccoon, ringtail, and cottontail rabbit. The main avian species in the area would have included ducks, coots, cormorants, grebes, herons, cranes, egrets, gulls, geese, brants, swans, hawks, eagles, doves, quail, flickers, woodpeckers, owls, turkey vultures, and a number of passerines. Chinook salmon, white and green sturgeon, Pacific lamprey, steelhead rainbow trout, Sacramento sucker, western pike-minnow, sculpins, tule perch, pond turtle, freshwater mussel, and ridged mussel constitute the aquatic fauna that would have been present within the Proposed Project site before Euro-American settlement. The arrival of Euro-Americans to the area led to a dramatic decrease in the populations of the faunal species due to overhunting and habitat loss (Rosenthal and Meyer 2004).

Ethnographic and Ethnohistoric Setting

Beginning in the early 16th century with Spanish colonization, but primarily during the late 19th and early 20th centuries, Native American lifeways and languages were documented by early American scholars and explorers throughout California. Whether provided by professional ethnographers or anthropologists, field personnel from government agencies such as the Bureau of Indian Affairs, soldiers, merchants, settlers, or travelers, ethnographic accounts partly illuminate the traditions, beliefs, and cultures of Native American groups during specific points in time.

Synthesized narratives such as the *Handbook of North American Indians* (Heizer 1978) categorize Native traditions and practices; however, the complexity of regional diversity should not be overlooked. Depopulation and forced relocation of Native Americans within the Central Valley in the 19th century resulted in conflicting and incomplete information about Native American settlement patterns and ancestral homelands. Although descriptions of indigenous people in the English language are known from as early as 1849, most available scholarly knowledge comes from various early-20th-century anthropologists (Levy 1978:413). The uncertainty regarding the ancestral homelands of Native American Tribes and communities that occupied the Proposed Project site and regional vicinity derives from the fact that ethnographies historically demarcated post-contact period Tribal boundaries in various and conflicting

ways, often without seeking clarification from Native American people or understanding the fluidity of settlement patterns over time.

The Proposed Project site is in a location historically attributed to speakers of Nisenan, also referred to as "Southern Maidu," and Konkow, both Maiduan family languages of the Penutian linguistic stock (Levy 1978:398–399). The eastern side of the Sacramento Valley, where the Proposed Project site is located, is the traditional homeland of speakers of languages grouped with the Penutian language phylum in the Maiduan subgroup. Linguists have assigned four languages to this group: Nisenan, Konkow, Chico or Michopdo Maidu, and Northeastern or Mountain Maidu. Nisenan is the most divergent language of the group, and most linguists consider Chico Maidu and Mountain Maidu the most similar, although some researchers have suggested that Chico Maidu may be a dialect of Konkow (Golla 2011:136).

There was likely not a distinct boundary between the different languages, but ethnographers and ethnolinguists have generally placed the interface zone between Konkow speakers and Nisenan speakers along the Feather River south of the confluence with Honcut Creek and north of the confluence with the Yuba River (Golla 2011:136; Kroeber 1929:257). As Kroeber described it, this was somewhere between *Molo'k'um* and *Tom'tco*, meaning that the area surrounding the Proposed Project site was within or on both sides of this interface zone, with people in the southern area speaking Nisenan and people in the northern area speaking Konkow (Kroeber 1929:257). Therefore, both of these ethnolinguistic groups are described below.

Nisenan

Nisenan typically situated their larger, permanent settlements on high ground along the region's major rivers, such as the Sacramento River. The language of the Nisenan, which includes several dialects, is classified in the Maiduan family of the Penutian linguistic stock (Kroeber 1925 [1976]; Shipley 1978). The western boundary of Nisenan territory extends to the western bank of the Sacramento River. The eastern boundary was "the line in the Sierra Nevada mountains where the snow lay on the ground all winter" (Littlejohn 1928).

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size ranged from three houses to 40 or 50. Houses were domed structures covered with earth and tule or grass and measured 3.0 to 4.5 meters in diameter. Brush shelters were used in summer and at temporary camps during food-gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush, with a central smoke hole at the top and an east-facing entrance. Another common village structure was a granary used for storing acorns (Wilson and Towne 1978).

The Nisenan occupied permanent settlements from which specific task groups set out to harvest the seasonal bounty of flora and fauna that the rich valley environment provided. The Valley Nisenan economy involved riparian resources, in contrast to the Hill Nisenan, whose resource base consisted primarily of acorn and game procurement. The only domestic plant was native tobacco, but many wild species were closely husbanded. The acorn crop from the blue oak and black oak was so carefully managed that this activity served as the equivalent of agriculture. Acorns could be stored in anticipation of winter shortfalls in resource abundance. Deer, rabbit, and salmon were the chief sources of animal

protein in the aboriginal diet, but many other insect and animal species were taken when available (Wilson and Towne 1978).

Religion played an important role in Nisenan life. The Nisenan believe that all natural objects are endowed with supernatural powers. Two kinds of shamans existed: curing shamans and religious shamans. Curing shamans had limited contact with the spirit world and diagnosed and healed illnesses. Religious shamans gained control over the spirits through dreams and esoteric experiences (Wilson and Towne 1978). Post-contact cremation was reportedly the usual mode of burial (Faye 1923).

The Gold Rush of 1849 had a devastating effect on the Valley Nisenan. The flood of miners who came to the area in search of gold brought diseases with them that decimated the Nisenan population. Those who survived were subjected to violence and prejudice at the hands of the settlers, and the Nisenan eventually were pushed out of their ancestral territory. Although this contact with settlers had a profound negative impact on the Nisenan population through disease and violent actions, the Nisenan people survived and maintained strong communities and action-oriented organizations (Castillo 1978). Nisenan find membership amongst several State and federally recognized Tribes, including the Shingle Springs Band of Miwok Indians, United Auburn Indian Community of the Auburn Rancheria, and Wilton Rancheria, where they continue to practice and maintain their culture.

Konkow

Konkow is a Maiduan language, one of several native languages in California stemming from the Penutian language family (Riddell 1978:370). The ethnographic setting for this area has been extensively documented in prior reports (Delacorte and Basgall 2006; Delacorte 2015):

The Konkow were hunter-gatherers who relied on wild plants and animals for their subsistence and other material needs (McCarthy et al. 2004). This included dozens of plant and animal species (Delacorte and Basgall 2006:Tables 2 and 3) obtained in various habitats that were carefully monitored and controlled by periodic burning (Dixon 1905; Kroeber 1925 [1976]). Plant foods of particular importance in the traditional Maidu diet included acorns, pine nuts, seeds of various grasses and weedy annuals, and the roots and tubers of several genera (e.g., *Perideridia* and *Broadiaea*). Numerous animals were also hunted and eaten, with deer undoubtedly the most important, but elk, antelope, bear, and a variety of small game (e.g., rabbits/hares, waterfowl, upland birds) were also consumed. Both resident and anadromous fish furnished another important source of food, as did freshwater mussels, given their abundance in certain archaeological deposits.

Konkow life revolved around independent households and/or grounds of consanguinally related families, who supported one another in economic and other activities. Above this level was the "village community" (Dixon 1905; Kroeber 1925 [1976]; Riddell 1978) or tribelet (Kroeber 1932), comprise of several villages headed by a "chief" or headman. Tribelets controlled hunting, fishing, and gathering rights within their territories that were guarded against trespass by outsiders. Villages were typically situated along ridges and consisted of anywhere from a few to as many as eight or ten households (i.e., 40 to 60 people [Kroeber 1925 (1976)]). Villages were inhabited throughout much of the year, but might be abandoned, especially in summer months, to exploit distant resource areas.

Marriage was contracted between "unrelated" individuals, with no expressed preference for either village or tribelet endogamy or exogamy (Kroeber 1925 [1976]). Suitors made their intentions known to the prospective bride's father and brought gifts of food to demonstrate their abilities, although no "bride price" was expected as occurred among many Sacramento valley groups (Dixon 1905; Kroeber 1925 [1976]). Marriage was consummated with little formal ceremony, and residence was commonly matrilocal for a time before shifting to a patrilocal pattern (Dixon 1905). Konkow trade relations with all but immediate neighbors were apparently limited and travel generally restricted to a radius of 20 miles. Shell beads were obtained from the Wintun to the northwest and tobacco from probably the northeastern Maidu at Honey Lake. Foothill Konkow people traded salmon and pine nuts and groups higher in the mountains exchanged bows, arrows, and deer hides. Other commodities (e.g., obsidian) were probably traded but in apparently limited quantities that reduced their availability over most of the Konkow area. (Delacorte 2015:24–25).

As with other California Native American groups, the Gold Rush of 1849 had a devastating effect on the Konkow. The flood of miners that came to the area in search of gold brought diseases with them that decimated the Konkow population. Those who survived were subjected to violence and prejudice at the hands of the settlers, ultimately pushing the Konkow out of their ancestral territory. Despite this historical impact on the population, the Konkow survived and maintained strong communities and action-oriented organizations (Castillo 1978), finding membership amongst several State and federally recognized Tribes including the Berry Creek Rancheria of Maidu, Enterprise Rancheria of Maidu Indians, Konkow Valley Band of Maidu, Mechoopda Indian Tribe, Mooretown Rancheria of Maidu, and Round Valley Indian Tribes of the Round Valley Reservation, all of whom continue to practice and maintain their culture.

Hy'nc'ut Band of Valley Maidu

Based on oral tradition and consultation with Konkow Band of Maidu Indians, the project vicinity was the home of the Hy'nc'ut Band of Valley Maidu.

Mountain Maidu/Northeastern Maidu/Maidu

The Proposed Project site is also within the ethnographic territory of the Northeastern Maidu, also known as the Mountain Maidu, a branch of the California Penutian language stock. The Maidu inhabited the mountain valley throughout the majority of Plumas County, as well as portions of Lassen and Sierra counties. Their territory spanned from Lassen Peak in the northwest to the southern half Eagle Lake in the north, Honey Lake to the east, and to the Sierra Buttes in the south. The majority of the ethnographically known villages of the Maidu are located in northern Plumas County in the area where Lake Almanor was constructed, around Susanville in southern Lassen County, and north of Quincy along Spanish Creek and Indian Creek, and in Indian Valley (Riddell 1978).

The dietary staple of Maidu people as per the ethnographic literature was the acorn, however animals, fish insects, nuts, and berries supplemented their diet. Hunting weaponry tools included the bow and arrow with projectile points and other flaked stone tools made from basalt, chert, or obsidian that was obtained through trade. Long nets and nooses were used to collect rabbits and birds. Harpoons, nets, and fishhooks were used for fishing (Kroeber 1925). Home forms include semi-subterranean (kum), conical bark dwellings, or brush shelters, which were for summer use. Baskets are an important tool and art for the Maidu for water collection, food preparation, food storage, as well as other uses (Riddell 1978).

Today the Maidu people are represented by several tribes including the Berry Creek Rancheria of Maidu Indians, Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, Honey Lake Maidu, Mooretown Rancheria of Maidu Indians, Pakan'yani Maidu of Strawberry Valley, and Susanville Indian Rancheria.

Pre-contact Context

Categorizing the pre-contact period into cultural stages allows researchers to describe a broad range of archaeological resources with similar cultural patterns and components during a given time frame, thereby creating a regional chronology. Rosenthal et al. (2007) provide a framework for interpreting the Central Valley's pre-contact archaeological record and have divided human history in the region into three basic periods: *Paleo-Indian* (13550–10550 years before present [BP]), *Archaic* (10550–900 BP), and *Emergent* (900–300 BP). The Archaic period is subdivided into three sub-periods: *Lower Archaic* (10550–7550 BP), *Middle Archaic* (7550–2550 BP), and *Upper Archaic* (2550–900 BP) (Rosenthal et al. 2007). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The following summary of the region's prehistory is derived principally from Rosenthal et al. (2007), Moratto (1984 [2004]), and Fredrickson (1992).

Paleo-Indian Period (13550–10550 BP)

Humans first entered the Central Valley sometime before 13,000 years ago. At that time Pleistocene glaciers had receded to the mountain crests, leaving conifer forests on the mid and upper elevations of the Sierra Nevada and a nearly contiguous confer forest on the Coast Ranges. The Central Valley was covered with extensive grasslands and riparian forests. The Delta system had not yet developed. The Central Valley was home to a diverse community of large mammals, which soon became extinct. People were likely focused on large game hunting, although evidence remains scant, as does understanding of lifeways during this period.

Lower Archaic Period (10550–7550 BP)

The Paleo-Indian Period was followed by the Lower Archaic Period. During this period, the ancient lakes, which had been the subsistence base during the Paleo-Indian Period, began to dry up as a result of climate change. This led to the rapid expanse of oak woodland and grassland prairies across the Central Valley. After 10550 BP, a significant period of soil deposition ensued in the valley, capping older Pleistocene formations.

This was followed around 7000 BP by a second period of substantial soil deposition in the valley. During this period the first evidence of milling stone technology appeared, indicating an increased reliance on processing plants for food. This period is often termed the "Milling Stone Horizon" in Southern California. The appearance of milling technology may also indicate less emphasis on hunting as individuals became more familiar with the local plant resources. Milling stones include handstones and milling slabs and are frequently associated with a diverse tool assemblage including cobble-based pounding, chopping, and scraping tools. Milling tools were used for processing seeds and nuts.

The Lower Archaic also saw the development of well-made bifaces used for projectile points and cutting tools, commonly formed from meta-volcanic greenstone and volcanic basalts. Most artifacts during this

period were manufactured of local materials and trade was limited. The primary social unit remained the extended family.

Middle Archaic Period (7550–2550 BP)

After about 7550 BP, California was marked by a change in climate, with warmer and drier conditions. Oak woodland expanded upslope in the Coast Ranges and conifer forest moved into the alpine zone in the Sierra Nevada. Rising sea levels led to the formation of the Delta and associated marshlands. An initial period of upland erosion and lowland deposition was followed by a long period of stabilization of landforms. Scant evidence of human occupation from this period has been found in the Sacramento Valley or the adjacent Coast Ranges. Most evidence comes from the Sierra foothills in Calaveras and Tuolumne counties.

Upper Archaic Period (2550–900 BP)

Evidence for Upper Archaic human occupation in the Central Valley is much more extensive than for earlier periods. The development of the Holocene landscape buried older deposits, resulting in the identification of more sites from the Upper Archaic than from older periods of development. Alluvial deposition was partially interrupted by two consecutive droughts, known as the "Medieval Climatic Anomaly." Two fundamental adaptations developed side by side during the Upper Archaic period, as evidenced by a diversification in settlement patterns. Populations in the valley tended toward large, high-density, permanent settlements. These villages were used as hubs from which the populace roamed to collect resources, using a wide range of technologies. The populations in the foothills and mountains lived in less dense settlements, moving with the seasons to maximize resource returns. Tools tended to be expedient and multipurpose for use in a wide variety of activities. Village sites show extended occupation as evidenced by well-developed midden, frequently containing hundreds of burials, storage pits, structural remains, hearths, ash dumps, and extensive floral and faunal remains.

Emergent Period (900–300 BP)

A major shift in material culture occurred around 900 BP, marking the beginning of the Emergent Period. Particularly notable was the introduction of the bow and arrow. The adoption of the bow occurred at slightly different times in various parts of the Sacramento Valley, but by 750 BP, it was in use in the Delta region. The bow was accompanied by the Stockton Serrated point, an invention seemingly developed by people in the area, distinctive from point types used in other parts of the state.

Another key element of material culture from this period is the big-head effigy ornaments thought to be associated with the Kuksu religious movement. In areas where stone was scarce, baked clay balls are found, presumably for cooking in baskets. Other diagnostic items from this period are bone tubes, stone pipes, and ear spools. Along rivers, villages are frequently associated with fish weirs, with fish taking on an increasing level of importance in the diet of the local populace.

Historic-Period Context

Settlement of the Sacramento Valley

The earliest European presence in California came with the Spanish exploration of the California coast in the mid-16th century. European expansion began when Spain established Franciscan missions throughout the region to Christianize the indigenous population of California, and to gain political and social control of the area.

Alongside the missions came a network of military establishments, or *presidios*, and civilian settlements, or *pueblos*. Exploration of the California hinterland focused predominantly on identifying rancho sites to support the mission network, as well as the recapture of runaway converts, or neophytes. Although the Spanish had made forays into the Central Valley since the mid-18th century, the earliest non-indigenous presence in the region occurred in 1808, when Captain Gabriel Moraga led an expedition from Mission San José to the northern Sacramento Valley. By the late 1820s, English, American, and French fur trappers, attracted by the valley's abundance of animal life, had established operations throughout the region (Rawls and Bean 2002).

As part of a Mexican land grant, John Sutter owned a large part of what is today known as Sutter County. In 1842, Nicolaus Allgeier established a ferry at the site of what would become the community of Nicolaus to cross the Feather River on the road between Sutter's Fort and Sutter's Hock Farm. In 1849, John Sutter deeded to himself, Pierson B. Reading, Samuel Brannan, and Henry Cheever the land for a new town, and in the same month the men laid out what would become Yuba City. In 1850, the California Legislature incorporated Sutter County as one of the state's original 27 counties. That same year, the town of Nicolaus was established and became a major stopping point on the Feather River. Early Yuba City centered on the convergence of the Feather and Yuba rivers and was named the county seat in 1856 (Gudde 1998; Hoover et al. 2002).

During the Gold Rush, Yuba City was overlooked in favor of its neighbor Marysville because of the more easterly location Marysville occupied on the way to the gold fields. With the rise of agriculture in Sutter County after the Gold Rush, Yuba City and its surrounding area developed into an agricultural center. Wheat, grapes, and peaches were successfully grown and contributed to the development of the area, as did cattle and dairy ranching. Because of the abundance of water from nearby rivers, irrigation was introduced early into the area. In 1908, the citizens voted to incorporate the town of Yuba City. The Proposed Project site is in a rural area that has historically been used for agricultural purposes with little development until the modern period (Gudde 1998; Hoover et al. 2002).

History of the Proposed Project Site and Vicinity

In 1844, the 22,000-acre Rancho Boga land grant was given to Charles William Flugge by Mexican Governor Manuel Micheltorena. The grant extended along the west bank of the Feather River south from the location of present-day Gridley, encompassing the community of Live Oak and the current Proposed Project site. The 1873 *Official Map of Sutter County, California* identifies the Proposed Project site as part of the property owned by J. (Jesse) O. Goodwin (Pennington 1873). Goodwin was a prominent early settler and landowner who resided in Marysville and had been elected district attorney in 1850 and county judge from 1859 to 1863 (Delay 1924).

Sutter Extension Water District

The Feather River is the primary tributary of the Sacramento River in Northern California. The 73-mile main stem of the Feather River originates in Lake Oroville, where it joins four tributary forks that drain parts of the Sacramento Valley and the northern Sierra Nevada. The valleys of the Feather River Basin were first inhabited by the Maidu, Washoe, and Paiute peoples (George et al. 2007). In 1836, a company of men including John Marsh and Jose Noriega embarked on an expedition through Northern California. Upon reaching the Sacramento River, the party traveled along a tributary and stopped at a portion of the river entirely covered with feathers. They subsequently named it "El Rio de las Plumas," or River of the

Feathers (Winkley 1962; Gannett 1905). In 1849, the discovery of gold in Coloma, California, brought an influx of white prospectors and settlers to the area.

During the second half of the 19th century, the region surrounding the Feather River was used primarily for mining, ranching, farming, grazing, and logging (George et al. 2007). By the end of the century, various engineers and canal companies had begun to develop the Feather River for irrigation. In 1891, a visitor to Sutter County noted that the construction of a ditch along the Feather River would "be a fortune to every land owner [*sic*] and induce hundreds to locate to your excellent country" (*Sutter County Farmer* 1891). Two years later, Chicago capitalist A.C. Flemming and Boston engineer J.R. Bothwell traveled along the river on behalf of the Feather River Canal Company to espouse the benefits of a future canal that would run down the Feather River through Gridley, and eventually Live Oak, and provide essential irrigation to the properties. In 1898, the Feather River Canal Company tapped Thomas B. Flemming, of Biggs, to complete plans for a future ditch and irrigation outfit to service at least 4,000 acres (*Sutter County Farmer* 1893, 1898). In response to the region's growing water demands, a 1904 report submitted to Sutter County recommended that Feather River be outfitted with a comprehensive levee, canal, and weir system that would use surplus waters from the Feather River watershed for land irrigation (*Sutter County Farmer* 1904).

During the early 20th century, water management of the Feather River in Sutter and Butte counties fell under the purview of a series of independent, competing companies. Several of the most notable companies were the Feather River Canal Company, the Western Canal Company, the Great Western Power Company, and the Sutter-Butte Canal Company. In 1924, after years of dispute, the Sutter-Butte Canal Company reached an agreement with the Western Canal Company and the Great Western Power Company to settle all water rights along the Feather River. Under the 1924 agreement, the Sutter-Butte Canal Company would retain water rights along the Feather River southeast of Live Oak, including "500 second feet" of "constant and uniform flow" of water at its "Sunset Pumps in Sutter County" (*Independent-Herald* 1924). The Sutter-Butte Canal Company would oversee the management and operation of the Sunset Weir and Pump Station for the next 25 years.

In January 1950, a group of Sutter County farmers announced a plan to establish their own irrigation district. The proposed district, called the Sutter Extension Water District (SEWD), would provide irrigation to approximately 22,500 acres of land in central Sutter County used primarily for growing rice. Under the guidance of officials from the California Farm Bureau Federation, the farmers planned to gain direct water access for the district through the purchase of 17 percent of the pre-1914 Feather River riparian water rights of the Sutter-Butte Canal Company, as well as the company's existing Sunset Pumping Plant, Sunset Weir, and portions of its diversion ditch system. After the Sutter County Board of Supervisors approved the initial proposal in April 1950, committee members of the farmers group circulated a petition among the region's farmers and landowners that might be affected by the project (*Sacramento Bee* 1950a, 1950b; *Independent-Herald* 1950a, 1950b; *The Gridley Herald* 1950; Sutter Extension Water District 2023).

In May 1950, Sutter County voters approved the bond measure necessary for the formation of the new water district by a vote of 503,637 ballots in favor and 125,535 ballots against. More than 100 property owners living within the proposed district participated in the election. After the vote, SEWD named V.G. Vanderford, Albert Thomasen, T.J. Kerrigan, Yuill Joaquin, and Elvin Lay as its board of directors

(*Independent-Herald* 1950b). The Sunset Weir and Sunset Pump Station remain under the management of SEWD to the present day.

Sunset Weir and Sunset Pump Station

The extant SEWD Water Diversion Facility, located on the Feather River approximately 2 miles southeast of Live Oak in Sutter County, California, consists of the Sunset Weir and the Sunset Pump Station. The Sunset Weir is a 10-foot-tall weir made of unconsolidated boulders originally constructed in the 1920s. The 400-foot-long weir crest spans from the east bank of the Feather River to the west bank where the Sunset Pump Station and its appurtenances discharges pumped water from the weir into SEWD's Main Canal.

The Sunset Weir and the Sunset Pumping Plant were originally part of the irrigation district overseen by the Sutter-Butte Canal Company. In 1920, the company began construction of the pumping plant, which would contain two 42-inch and one 24-inch electric pumps that would lift 500 second-feet of water from the nearby weir for irrigation of nearby Sutter County land (*Sutter County Farmer* 1920). Historical newspaper research yielded sparse information about initial construction of the plant and weir but did reveal that construction of the pumping plant was completed no later than 1924 (*Independent-Herald* 1924).

A series of performance issues plagued the Sunset Pump Station during the 1940s and 1950s. In 1940, floodwaters damaged much of the Sutter-Butte Canal Company's Feather River dam, which prompted the company to issue an unpopular emergency rate increase. Flooding increased water levels to such an extent that an aerial photograph indicates that the weir remained fully submerged in October 1941 (Fairchild Aerial Surveys 1941). During a 1941 State Railroad Commission hearing, the company's failure to initiate operation of the standby pumps at the Sunset Pump Station during the 1940 flooding fell under harsh scrutiny (*The Gridley Herald* 1941). During World War II, heavy cutting of timber along the Feather River's watershed steadily increased the runoff volume of regular rainfall, which in turn increased downstream crests and overwhelmed the existing water management facilities, including the Sunset Pump Station. After a disastrous levee break in the winter of 1955, representatives of Sutter and Yuba counties vowed to prioritize modernizing water management facilities along the Feather River (*Independent-Herald* 1956a, 1956b).

Archival research uncovered little information regarding modifications made to the Proposed Project site after 1950. Historic aerial photographs dating to between 1949 and 1987 confirm that the overall configuration of the Proposed Project site remained consistent but give little indication of any substantive modifications made to the built environment (Fairchild Aerial Surveys 1949; Cartwright Aerial Surveys 1961; Pacific Aerial Surveys 1987). Records do indicate that the Sunset Weir and Sunset Pump Station underwent major improvements between 1960 and 1961. In 1960, the Sunset site was one of four pump sites identified by Sutter County to undergo reconstruction to correct improper subterranean seepage. Modifications during this period also included a 4- to 5-foot-high and 60-foot-wide berm fill along 2,500 feet of the river side of the levee south of the Sunset Pump Station (*Oroville Mercury Register* 1960; *Independent-Herald* 1960). The weir was likewise reinforced, and it is likely that the extant material dates to this period.

Assessment for Potential Cultural Resources in Proposed Project Site

Background research and survey efforts identify two cultural resources within the Proposed Project site: the Sunset Pump Station and Pump House and Indigenous Resource P-51-000325.

Archaeological Resources

Surveys

On multiple occasions in 2022 and 2024, archaeologists conducted pedestrian surface surveys of all accessible portions of the Proposed Project site. Reconnaissance methods were used in 2022, involving visits to various locations identified for the wider project, including the area around the Pump Station. In October 2024, archaeologists conducted an archaeological subsurface survey designed to identify, to the extent possible, the presence or absence of near-surface (up to 200 centimeters [cm] deep) pre-contact cultural materials and/or human remains within the Proposed Project site (both horizontal and vertical extents). Subsurface investigations were conducted within the portions of the Proposed Project site where ground-disturbing activities would occur, including both sides of the Feather River.

The subsurface survey consisted of hand excavation of auger units (AUs) placed at regular intervals. A hand soil auger was used to excavate approximate 10-cm-diameter cylindrical pits to a target depth of either 50 cm or 200 cm below ground surface (as feasible), depending on the projected depth of potential ground disturbance. All excavated sediment was dry-screened through 1/8-inch wire mesh screen. Because the goal was to determine the presence or absence of cultural deposits, AUs were terminated upon identification of potential archaeological deposits, even if above the target depth. This was intended to reduce the impact of the subsurface survey on any cultural deposits that may be present.

Identification of archaeological materials was made by both the archaeologists and Tribal monitors. If Tribal monitors requested continuation of the AU for more information, the AU continued to the target depth or until the presence of cultural deposits could be confirmed. AU locations were recorded with a sub-meter Global Positioning System receiver and backfilled upon completion. No identified archaeological materials were permanently collected and any finds were reburied within the original AU location while backfilling. AU results were recorded as positive, negative, or indeterminate, with soil descriptions by level in AU field forms.

Results

Based on the previous findings and current survey effort, Indigenous Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and in the California Register under Criteria 1 and 4 (Rosenthal and White 2021a). Indigenous Resource P-51-000523 is therefore considered a historical resource and a unique archaeological resource for the purposes of CEQA.

Architectural Resources

Survey

On July 26, 2023, an intensive-level architectural resources survey of the Proposed Project site was completed. The survey consisted of inspecting architectural features that had been identified on the site through a review of modern and historic maps and photographs and a review of those features identified by SEWD.

Results

The Sunset Pump Station and Pump House is a historic-period architectural resource within a very small portion of the Proposed Project site. The resource comprises three vertical turbine pumps (North Pump, Middle Pump, and South Pump), an intake structure, and the pump support framework. The three pumps are oriented vertically from the concrete box intake structure and connect to east/west pipes leading to the

Sunset Pump House. The northern and middle pumps have 42-inch diameters, while the south pump has a 24-inch diameter. The framework measures 35.5 feet wide, 47 feet tall, and 14 feet deep. Design drawings from 1961 indicate that the facility was modernized, with original materials replaced, and the modern framework and intake structure were installed at that time.

The Sunset Pump House is a single-story, wood frame barn structure, measuring 70 by 30 feet and oriented north/south alongside the Feather River West Levee (P-04-004250/P-51-000150). The exterior and roof are clad in corrugated metal sheets, and the northern wall is partially open to provide access to oversized equipment stored on site. Fenestration consists of the flush wooden door on the western façade, with no other doors or windows. Review of historic aerial photographs indicates the presence of a pump house as early as 1950, but in its current size and configuration by 1973.

The Sunset Pump Station and Pump House do not appear to meet any significance criteria for eligibility for listing in the California Register. The pump station and pump house are associated with local patterns in early- to mid-20th-century flood control and agricultural development, but not in an individually significant way. Archival review of historic newspapers and records does not indicate that there are any significant associations between the pump station and pump house and important events or patterns in history. The pump station and pump house are typical examples of a vernacular irrigation infrastructure, and as such, do not appear to have a significant association with important events (Criterion A). Archival review failed to identify any significant associations between the pump station and pump house and the lives of people significant in the past. Research did not find names of historically important people associated with the resource (Criterion B). The pump station and pump house do not embody the distinct characteristics of a type or period but rather reflect typical local vernacular industrial construction methods. The pump station and pump house do not represent the work of a master or possess high artistic values (Criterion C). The pump station and pump house do not appear to yield significant information that would expand our current knowledge or theories of design, methods of construction, or other information that is not already known (Criterion D).

Based on the above-described evaluation, the Sunset Pump Station and Pump House is not eligible for listing in the National Register or the California Register and is therefore not considered a historical resource for the purposes of CEQA.

3.8.3 Regulatory Setting

Federal and State regulations in the Final SRGO Program EIR Cultural Resources chapter, Section 3.7.3, "Regulatory Setting," identified the following regulations below as applicable to the Proposed Project. New or updated policies since certification of the Final SRGO Program EIR applicable to the Proposed Project are also listed below.

Federal

National Historic Preservation Act and National Register of Historic Places

Historic properties are considered through compliance with the National Historic Preservation Act (NHPA), as amended (United States Code [USC] Title 54, Section 307103 [54 USC Section 307103]) and its implementing regulations (54 USC Section 307103; Code of Federal Regulations [CFR] Title 36, Section 800, 36 CFR Section 60, and 36 CFR Section 63). The NHPA establishes the federal government's

policy on historic preservation and the programs, including the National Register, through which that policy is implemented. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the [National Register]" (54 USC Section 300308).

When a project implemented under the Order requires a federal permit, compliance with Section 106 of the NHPA (Section 106) is also required. Under Section 106, generally, it is the responsibility of the lead federal agency—in this case, the U.S. Army Corps of Engineers—to consider the effects of a proposed undertaking on historic properties. The federal agency must consult with the State Historic Preservation Officer, federally recognized Indian Tribes, and other interested parties before granting a permit, funding, or other authorization. The agency must also afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect a property eligible for listing in the National Register. Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to an Indian Tribe or a Native Hawaiian organization to be determined eligible for inclusion in the National Register.

Under the NHPA, a find is significant if it meets the National Register listing criteria (36 CFR Section 60.4), as stated below:

> *The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:*
>
> *a) That are associated with events that have made a significant contribution to the broad patterns of our history, or*
>
> *b) That are associated with the lives of persons significant in our past, or*
>
> *c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or*
>
> *d) That have yielded, or may be likely to yield, information important in prehistory or history.*

In addition to meeting one of the above criteria, a resource must retain integrity to be considered a historic property. Integrity is measured by the degree to which the resource retains its historical attributes and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the resources.

Certain types of resources are usually excluded from consideration for listing in the National Register but can be considered if they meet special requirements in addition to meeting one or more of the National Register listing criteria. The following seven criteria considerations deal with resources usually excluded from listing in the National Register:

- Religious resources.
- Moved resources.

- Birthplaces and graves.
- Cemeteries.
- Reconstructed resources.
- Commemorative resources.
- Resources that have achieved significance within the past 50 years.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 USC Section 1996) protects and preserves the right of Native Americans to believe, express, and exercise traditional religious rights and cultural practices, including access to sites of religious importance to Native Americans.

State

The State of California oversees statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation also maintains the California Historical Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdiction.

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects occurring in California. CEQA requires lead agencies to determine whether a project would have a significant effect on cultural resources and Tribal cultural resources, among other resource types.

The State of California implements provisions of CEQA through its statewide comprehensive cultural resources surveys and preservation programs. Typically, a resource must be more than 50 years old to be considered a potential historical resource. The California Office of Historic Preservation conservatively advises recording any resource 45 years or older, because there is commonly a 5-year lag between resource identification and the date that planning decisions are made.

Historical Resources

The CEQA Guidelines recognize that a historical resource includes all of the following:

- A resource in the California Register (PRC Section 5024.1; California Code of Regulations [CCR] Title 14, Section 4850 et seq. [14 CCR Section 4850 et seq.]).
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record (PRC Section 5024.1; 14 CCR Section 4850 et seq.).

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and PRC Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines (CCR Section 15000), the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

Unique Archaeological Resources

As defined in PRC Section 21083.2, a "unique archaeological resource" is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The CEQA Guidelines note that if an archaeological resource is not a unique archaeological, historical, or Tribal cultural resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (CCR Section 15064.5[c][4]).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based on the criteria for listing on the National Register (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a cultural resource must be significant at the federal, State, and/or local level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must be of sufficient age and retain enough of its historic character or appearance (integrity) to convey the reason for its significance. The California Register

consists of resources that are listed automatically and those that must be nominated through an application and public hearing. The California Register automatically includes the following resources:

- California properties listed in the National Register and those formally determined eligible for the National Register of Historic Places.
- California Registered Historical Landmarks from No. 770 onward.
- California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion in the California Register.

The following other resources may be nominated to the California Register:

- Historical resources with a significance rating of Category 3, 4, or 5 (properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register).
- Individual historic resources.
- Historic resources contributing to historic districts.
- Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Public Resources Code Section 5097

PRC Section 5097.99, as amended, prohibits obtaining or possessing Native American artifacts or human remains that are taken from a Native American grave or cairn. Knowingly or willfully obtaining or possessing Native American artifacts or human remains is a felony punishable by imprisonment. Similarly, unlawful removal of any such items with an intent to sell or dissect or with malice or wantonness is a felony punishable by imprisonment.

California Native American Historic Resource Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to $50,000 per violation, on persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

California Health and Safety Code Section 7050.5

Section 7050.5 of the California Health and Safety Code protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. PRC Section 5097.98 (reiterated in 14 CCR Section 15064.59[e]) also identifies steps to follow if human remains are accidentally discovered or recognized in any location other than a dedicated cemetery.

California Natural Resources Agency (CNRA) Tribal Consultation Policy

The CNRA Final Tribal Consultation Policy, adopted November 12, 2012, was developed in response to Governor Edmund G. Brown Jr.'s Executive Order B10-11 (September 19, 2011), which states, "[t]he purpose of this policy is to ensure effective government-to-government consultation between the Natural Resources Agency, its Departments…and Indian Tribes…to provide meaningful input into the development

of regulations, rules, policies, programs, projects, plans, property decisions, and activities that may affect Tribal communities." At the time this document was drafted CNRA released a revised Tribal Consultation Policy on September 26, 2025.

California Department of Water Resources (DWR) Tribal Engagement Policy

DWR adopted the Tribal Engagement Policy, effective March 8, 2016, to strengthen DWR's commitment to improving communication, collaboration, and consultation with California Native American Tribes. This policy is consistent with Executive Order B-10-11, the CNRA's Tribal Consultation Policy, and CEQA, and includes principles that facilitate early and meaningful Tribal engagement with California Native American Tribes.

3.8.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to cultural resources is considered significant if the Proposed Project would do any of the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- Disturb any human remains, including those interred outside of dedicated cemeteries.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Proposed Project–specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the

impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to cultural resources associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance (long-term, permanent).

Impacts and Mitigation Measures

Table 3.8-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.8-1
SUMMARY OF IMPACT CONCLUSIONS—CULTURAL RESOURCES

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.8-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an architectural historical resource pursuant to CEQA Guidelines Section 15064.5.	NI	NI
3.8-2: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	SU	SU
3.8-3: Implementation of the Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries.	SU	SU

Notes: NI = no impact; SU = significant and unavoidable
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.8-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an architectural historical resource pursuant to CEQA Guidelines Section 15064.5. (Final SRGO Program EIR Impact 3.7-1.)

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on architectural historical resources. A historical resource is defined as any building, structure, site, or object listed in or determined to be eligible for listing in the California Register or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. The following discussion focuses on architectural historical resources. Archaeological resources, including those that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed below under Impacts 3.8-2 and 3.8-3.

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of

construction activities for restoration projects that could involve the types of activities that have the potential to affect historical architectural resources. It was determined that if projects permitted under the Final SRGO Program EIR would affect architectural resources that qualify as historical resources as defined in CEQA Guidelines Section 15064.5, the impact would be potentially significant. Final SRGO Program EIR Mitigation Measure CUL-1 was required when applicable to a given project. This measure required an inventory and significance evaluation of architectural resources before implementation of any project permitted under the Final SRGO Program EIR. However, because the exact details, including precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR, it was not known whether implementing the projects permitted under the Order would affect any architectural resources, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on architectural historical resources include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

As described above in Section 3.8.2, "Environmental Setting," one architectural resource is present on the Proposed Project site: the Sunset Pump Station and Pump House. Based on the evaluation presented in this section, the Sunset Pump Station and Pump House is not eligible for listing in the National Register or the California Register and is therefore not considered a historical resource for the purposes of CEQA. Because there are no architectural historical resources in the Proposed Project site, ***no impact*** on architectural historical resources would result from construction activities associated with the Proposed Project, and Final SRGO Program EIR Mitigation Measure CUL-1 (inventory and significance evaluation of architectural resources) has been completed for the Proposed Project. Although there are no architectural resources that qualify as historical resources within the Proposed Project, there are archaeological and Tribal cultural resources that qualify as historical resources pursuant to CEQA Guidelines Section 15064.5. The ***significant and unavoidable impacts*** to these categories of historical resource are discussed below under Impacts 3.8-2 and 3.8-3 as well as in Section 3.13 of the SEIR ("Tribal Cultural Resources").

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.7, "Cultural Resources," Section 3.7.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts to architectural resources. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project's ground-disturbing activities related to the potential to cause a substantial adverse change in the significance of an architectural historical resource pursuant to CEQA Guidelines Section 15064.5.

Effects of Constructed Facilities and Operations and Maintenance

Because there are no architectural historical resources on the Proposed Project site, ***no impact*** on architectural historical resources would result from operations and maintenance associated with the Proposed Project. Although there are no architectural resources that qualify as historical resources within the Proposed Project, there are archaeological and Tribal cultural resources that qualify as historical resources pursuant to CEQA Guidelines Section 15064.5. The ***significant and unavoidable impacts*** to these categories of historical resource are discussed below under Impacts 3.8-2 and 3.8-3 as well as in Section 3.13 of the SEIR ("Tribal Cultural Resources").

The constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.7, "Cultural Resources," Section 3.7.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts to architectural resources. The Final SRGO Program EIR adequately addressed operations, monitoring, and maintenance impacts of the Proposed Project related to the potential to cause a substantial adverse change in the significance of an architectural historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.8-2: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 (Final SRGO Program EIR Impact 3.7-2.)

Archaeological resources can be considered historical resources, according to CEQA Guidelines Section 15064.5, as well as unique archaeological resources, as defined in Public Resources Code (PRC) Section 21083.2(g). A significant impact could occur if the Proposed Project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects that could involve the types of activities that have the potential to affect archaeological resources (herein referring to archaeological resources considered as historical resources and/or unique archaeological resources). It was determined that if projects permitted under the Final SRGO Program EIR would affect archaeological resources that qualify as historical resources as defined in CEQA Guidelines Section 15064.5 or unique archaeological resources as defined in PRC Section 21083.2, the impact would be potentially significant. Final SRGO Program EIR Mitigation Measures CUL-2 and CUL-3 were required when applicable to a given project. Those measures required an inventory and significance evaluation of archaeological resources before implementation of any project permitted under the Final SRGO Program EIR. However, because the exact details, including the precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR, it was not known whether implementing the projects permitted under the Order would affect any archaeological resources, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on archaeological resources include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

As described previously, one archaeological resource is present on the Proposed Project site. Indigenous Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. Indigenous Resource P-51-000523 is therefore considered a historical resource and a unique archaeological resource for the purposes of CEQA. Impacts on this resource would be significant. Consistent with Final SRGO Program EIR Mitigation Measure CUL-2, the inventory for and significance evaluation of archaeological resources for the Proposed Project have already been completed. Final SRGO Program EIR Mitigation Measure CUL-3 would apply because it includes measures to protect archaeological resources during project construction (see Appendix B). SEIR

Mitigation Measure 3.8-1 would reduce impacts by implementing a Historic Properties Treatment Plan (HPTP), which includes treatment measures for reducing adverse effects to historic properties/historical resources through data recovery or other means in a culturally appropriate manner. However, development and implementation of an HPTP would not fully reduce the impact on Indigenous Resource P-51-000325, and the impact would be ***significant and unavoidable***.

> **Mitigation Measure 3.8-1: Prepare a Historic Properties Treatment Plan.** Before beginning any ground-disturbing activities, DWR shall prepare a Historic Properties Treatment Plan (HPTP), which ensures the minimization of adverse impacts on Indigenous Resource P-51-000523 from implementation of the Project, as feasible, and addresses any adverse impacts that cannot be avoided in a culturally appropriate manner. The HPTP will require the following protective measures included as Mitigation Measures 3.8-1a through 3.8-1e: (a) pre-construction treatment; (b) construction avoidance and fencing measures; (c) cultural resources and Tribal cultural resources awareness training; (d) archaeological and Tribal monitoring during construction; and (e) an inadvertent-discovery plan. DWR as the CEQA lead agency will coordinate with consulting California Native American Tribes to solicit recommendations regarding Native American resources including Tribal cultural resources (TCRs) and Traditional Cultural Properties (TCPs) for the HPTP (see also Mitigation Measure 3.13-1).
>
> - **Mitigation Measure 3.8-1a: Pre-construction Treatment.** The Project may cause a direct impact on Indigenous Resource P-51-000325. The HPTP will include a chapter that will provide treatment options. The HPTP will document the results of past research; determine the ability of the resource to contribute to research themes, questions, and data requirements; and include a plan for additional subsurface investigation, and treatment, including data recovery or excavation, as appropriate. Treatment for TCRs/TCPs will be developed in coordination with consulting Tribes (see **Mitigation Measure 3.13-1a**).
> - **Mitigation Measure 3.8-1b: Construction Avoidance and Fencing Measures.** The HPTP will include a chapter on fencing and avoidance measures. The preferred method of avoiding impacts is to relocate construction-related activities to avoid significant resources. Fencing and/or monitoring to ensure that resources are protected will be necessary. To prevent inadvertent adverse impacts on Indigenous Resource P-51-000325, fencing may be placed in areas to be avoided, and geotechnical fabric may be placed in staging areas to further ensure that no inadvertent adverse impacts during construction occur. The Project archaeologist shall designate the locations and types of physical barriers needed to adequately protect resources from construction activities in coordination with the consulting California Native American Tribes.
> - **Mitigation Measure 3.8-1c: Cultural Resources and Tribal Cultural Resources Awareness Training.** The HPTP will include a chapter regarding a cultural resources and Tribal cultural resources awareness training program. All construction personnel on the Project will undergo training sessions before starting work. Only personnel who have received the training will be allowed to enter the Project site. Training will include a presentation developed in coordination with consulting California Native American Tribes. Topics may include the presence and nature of cultural resources and Tribal cultural resources within the Project site; the laws protecting these resources and associated penalties; the basics for identifying cultural resources; and the procedures to follow should they discover cultural resources during Project-related work. Consulting California Native American Tribes shall be provided an opportunity to present the Tribal perspective at each training session. Associated written materials will be provided to the construction manager, construction crews, and field personnel as appropriate.

- **Mitigation Measure 3.8-1d: Archaeological and Tribal Monitoring during Construction.** The HPTP will include a chapter detailing the areas to be monitored during construction. Monitoring locations and coordination protocol will be designated by the Project archaeologist in coordination with the consulting California Native American Tribes (see **Mitigation Measure 3.13-1b**). The Project archaeologist and consulting California Native American Tribes will be provided a general construction schedule and a representative from each consulting California Native American Tribe will be invited to monitor ground-disturbing activities with a minimum 24-hour/1-business-day advance notification of activities in areas designated for monitoring. If buried or previously undocumented resources are discovered, appropriate treatment will be completed in accordance with the HPTP and these mitigation measures. The HPTP should provide detailed guidance for archaeological and Tribal monitoring including:
    - Person(s) responsible for conducting monitoring activities;
    - Person(s) responsible for overseeing and directing the monitors;
    - Safety protocols and requirements;
    - Communication protocols including regular meetings, process for routine communications, and process for notifying key staff, Tribes, DWR, and federal partners of unanticipated discoveries;
    - How the monitoring shall be conducted including timing, duration, and activities, and required format and content of monitoring reports;
    - Means and methods of identifying and managing resources encountered (e.g., left in place, temporary collection, reburial, identification, and documentation);
    - Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;
    - Protocol for pausing and/or stopping work and notifications in case potential cultural resources and/or Tribal cultural resources are encountered;
    - Authority for archaeological and Tribal monitors to pause and/or stop work if potential cultural resources and/or Tribal cultural resources are encountered;
    - Methods to ensure security of potential cultural resources or Tribal cultural resources;
    - A protocol for notifying local authorities (i.e., Sheriff, Police) should site looting and other illegal activities occur during construction;
    - A protocol for notifying the County Coroner should human remains be found, per California Health and Safety Code Section 7050.5;
    - The archaeologist in coordination with consulting Tribes may adjust the frequency of the monitoring (e.g., from continuous to intermittent) based on the conditions and professional judgment regarding the potential to impact resources; and
    - Contact information for all responsible personnel identified in the Plan.
- **Mitigation Measure 3.8-1e: Inadvertent-Discovery Plan.** If cultural materials are encountered during Project construction or operation, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. DWR and the Project archaeologist shall be immediately informed of the discovery. The Project archaeologist shall inspect the discovery and notify DWR of their initial assessment. If the resource is potentially indigenous

in origin, DWR shall coordinate with consulting California Native American Tribes to assess the find and determine whether it is potentially a Tribal cultural resource.

If DWR determines, based on recommendations from the Project archaeologist and consulting California Native American Tribes, that the resource is indigenous, or that the resource may qualify as a historical resource (per CEQA Guidelines Section 15064.5), a unique archaeological resource (per PRC Section 21083.2), or a Tribal cultural resource (per PRC Section 21074), then the resource shall be avoided if feasible (see **Mitigation Measure 3.13-1c**). If avoidance of an identified indigenous resource is not feasible, DWR shall consult with the Project archaeologist, consulting California Native American Tribes, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts on the resource pursuant to PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If any such resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission. Once treatment measures have been determined, DWR shall prepare and implement the measures of the HPTP that outline the treatment measures for the resource. Treatment measures typically consist of the following steps:

- Determine whether the resource qualifies as a historical resource (per CEQA Guidelines Section 15064.5), a unique archaeological resource (per PRC Section 21083.2), or a Tribal cultural resource (per PRC Section 21074) through analysis that could include additional historical or ethnographic research, evaluative testing (excavation), or laboratory analysis.
- If the resource qualifies as a historical resource (per CEQA Guidelines Section 15064.5) and/or a unique archaeological resource (per PRC Section 21083.2), implement measures for avoiding or reducing impacts such as the following:
  - Modify the project to avoid impacts on resources.
  - Plan parks, green space, or other open space to incorporate resources.
  - Recover the scientifically consequential information from the archaeological resource before any excavation at the resource's location. This typically consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the project.
  - Develop and implement interpretive programs or displays.
- If potential human remains are encountered, all work will halt within a minimum of 100 feet (or greater agreed-upon distance) of the find and the construction contractor will immediately contact DWR and SBFCA. DWR, SBFCA, and/or the on-site archaeologist will contact the appropriate County coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines that the remains are Native American, the coroner will contact the NAHC. As provided in PRC Section 5097.98, the NAHC will identify the person or persons believed most likely to be descended from the deceased Native American. The most likely descendant (MLD) will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects the SRGO would encourage and promote, including potential impacts of constructed

facilities and operations and maintenance of those facilities for restoration projects that could involve the types of activities that have the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. (See Final SRGO Program EIR Section 3.7.4.) Operational activities could involve ground-disturbing activities to install monitoring equipment (e.g., groundwater wells, flow gauges, depth gauges, cameras, stakes, and similar equipment).

The Final SRGO Program EIR stated that constructed facilities and operations associated with new infrastructure or modifications to existing infrastructure could include ground-disturbing activities that could result in significant impacts on archaeological resources through partial or complete destruction. Final SRGO Program EIR Mitigation Measures CUL-2 and CUL-3 were required when applicable to a given project. These measures required an inventory and significance evaluation of archaeological resources before implementation of any project permitted under the Final SRGO Program EIR. However, because the exact details, including the precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR, it was not known whether implementing the projects permitted under the Order would affect any archaeological resources, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on archaeological resources include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

As described previously, one archaeological resource is present on the Proposed Project site. Indigenous Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. Indigenous Resource P-51-000523 is therefore considered a historical resource and a unique archaeological resource for the purposes of CEQA. Impacts from operations and maintenance would be significant. Final SRGO Program EIR Mitigation Measure CUL-2 (the inventory for and significance evaluation of archaeological resources) has already been completed. DWR will ensure that Final SRGO Program EIR Mitigation Measure CUL-3 (measures to protect archaeological resources during project construction and operations and maintenance) is followed (see Appendix B). SEIR Mitigation Measure 3.8-1f would reduce impacts on the resource by including an annual monitoring program, the details of which would be included in the HPTP described in SEIR Mitigation Measure 3.8-1. Annual monitoring would ensure that no additional adverse impacts on Indigenous Resource P-51-000325 would result from operations and maintenance of the Proposed Project. However, this measure would not fully reduce the impact, and the impact would be ***significant and unavoidable***.

> **Mitigation Measure 3.8-1f: Annual Monitoring Program.** The HPTP described in Mitigation Measure 3.8-1 will include a chapter to establish an annual monitoring program to address locations where there may be impacts from operations and maintenance of the Proposed Project. The Project archaeologist and consulting California Native American Tribes will provide input on areas to be observed on an annual basis. If buried or previously undocumented resources are discovered, appropriate treatment will be completed in accordance with Mitigation Measure 3.8-1 and any other relevant provisions in the HPTP.

Impact 3.8-3: Implementation of the Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries. (Final SRGO Program EIR Impact 3.7-3.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities, constructed facilities and operations and maintenance of those facilities for restoration projects that could involve the types of activities that have the potential to affect human remains, including those interred outside of dedicated cemeteries. It was determined that if projects permitted under the Final SRGO Program EIR would affect human remains, the impact would be potentially significant. Final SRGO Program EIR Mitigation Measure CUL-4 was required when applicable to a given project. This measure identifies the steps to follow in the event of a discovery of human remains. However, because the exact details, including precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR, it was not known whether implementing the projects permitted under the Order would affect any human remains, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on human remains include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

Final SRGO Program EIR Mitigation Measure CUL-4 would reduce impacts and would apply to the Proposed Project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles; see also Appendix B.) However, development and implementation of Final SRGO Program EIR Mitigation Measure CUL-4 would not fully reduce the impact, and the impact would be ***significant and unavoidable***.

3.9 Energy

3.9.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to energy. The environmental setting and the evaluation of energy impacts are based on a review of existing, publicly available literature and data.

No comments addressing energy were received in response to the Notice of Preparation (NOP). See **Appendix A** for NOP comment letters.

3.9.2 Environmental Setting

Constructing projects consumes energy both directly and indirectly. Energy is also consumed during the operation and maintenance of project facilities, such as pumping water into off-stream storage ponds and tanks.

In California, energy consumption is divided into four primary sectors: transportation, industrial, commercial, and residential. According to the U.S. Energy Information Administration, of the state's total energy consumption in 2023, transportation consumed 45 percent, industrial 21 percent, commercial 17 percent, and residential 17 percent. In 2023, California consumed more natural gas than any other energy source, at 39 percent of the state's energy consumption (U.S. Energy Information Administration 2024).

Sutter County

In Sutter County, electricity purchased from Pacific Gas and Electric Company (PG&E) by local customers is generated and transmitted to the county by a large network of power plants and transmission lines located throughout California. PG&E has sufficient energy supplies and distribution facilities to meet anticipated demands and growth in Sutter County. PG&E also has two public utilities yards in Sutter County to support service calls, maintenance, and resolution of area outages.

Sutter County has five energy generation facilities that sell excess power to PG&E and the open market. There are also four existing co-generation facilities in the county: Greenleaf 1 and 2 both owned by LFC Systems, a plant owned by Yuba City Cogeneration, and a plant owned by the Yuba City Racquet Club. All four facilities are fueled by natural gas, supporting industrial or commercial uses, and generate surplus electricity (Sutter County 2008, 2011). According to the California Energy Commission's Energy Consumption Data Management System, 661.6 million kilowatt-hours (kWh) of energy were consumed in Sutter County in 2022, a decrease from 686.5 million kWh consumed in 2021 (California Energy Commission 2025a).

Natural gas use fluctuates throughout the year as temperature and other weather conditions change. As the population of Sutter County increases, demand for energy will also increase. Transmission lines across the county transport gas from local wells in the western portion of Sutter County; gas that is imported

from Texas and Canada flows through a series of pipelines in the northern half of the county. Even though Sutter County is rural, much of the housing has access to county or city natural gas utilities; almost 65 percent of the county's households are heated by natural gas (Sutter County 2008). According to the California Energy Commission's Energy Consumption Data Management System, 21.7 million therms of natural gas hours were consumed in Sutter County in 2022, a decrease from the 22.2 million therms consumed in 2021 (California Energy Commission 2025b).

Regular unleaded gasoline is used primarily to fuel passenger cars and small trucks, while diesel fuel is used mostly by large trucks and construction equipment. Both are used widely in Sutter County; in 2023, estimated sales of gasoline in the county totaled 34 million gallons, while diesel sales totaled 5 million gallons (California Energy Commission 2025c).

Yuba County

Yuba County receives its electricity from PG&E. PG&E receives 39 percent of its electricity from natural gas, 22 percent from nuclear power, 16 percent from hydroelectric, 14 percent from renewable resources, and 8 percent from coal. PG&E also operates the Narrows 1 Powerhouse at Englebright Dam in Yuba County, which can generate 50 megawatts (MW) of electricity. The primary electricity-generating facilities in Yuba County are hydroelectric facilities, which are operated by public agencies and wholesale to PG&E. Specifically, four facilities operated by Yuba County Water Agency can generate between 2 and 340 MW; five facilities operated by South Feather Water and Power Agency can generate up to 120 MW; and one facility operated by Browns Valley Irrigation District can generate up to 1 MW (Yuba County 2011a).

The Yuba County General Plan's Energy subsection emphasizes adopting renewable energy, practicing energy conservation, and considering nature-based solutions to heat and cool homes such as east-to-west orientation, tree shading, and natural lighting; the subsection does not discuss the use of natural gas in detail (Yuba County 2011b). According to the California Energy Commission's Energy Consumption Data Management System, 572.3 million kWh of energy were consumed in Yuba County in 2022, an increase from the 571.1 million kWh consumed in 2021 (California Energy Commission 2025a). The Energy Consumption Data Management System also found that the county consumed 11.2 million therms of natural gas in 2022, a decrease from the 11.4 million therms used in 2021 (California Energy Commission 2025b).

As discussed previously, regular unleaded gasoline is used primarily to fuel passenger cars and small trucks, while diesel fuel is used mostly by large trucks and construction equipment. Both are used widely in Yuba County; in 2023, estimated sales of gasoline in the county totaled 34 million gallons, while diesel sales totaled 5 million gallons (California Energy Commission 2025c).

Existing Energy Consumption at the Sunset Pump Station

The Proposed Project site is rural and not densely populated. Surrounding land uses consist largely of agricultural uses and scattered rural residential housing (Sutter County 2025; Yuba County 2025). The area's energy consumption consists of electricity and natural gas use for agricultural operations and, to a lesser degree, for housing; gasoline and diesel are typically used for transportation and to operate vehicles and equipment for agriculture. Electrical service is provided to the Sunset Pump Station via transmission lines owned and operated by PG&E.

The existing Sutter Extension Water District (SEWD) Sunset Pump Station is located next to a PG&E substation that also provides electric power to the Sunset Pump Station. The PG&E substation receives three-phase medium-voltage power and distributes it via a bank of four transformers. The transformer next to the PG&E substation distributes the incoming power as 480-volt output. This transformer feeds a switchboard inside the Sunset Pump Station valve house. The switchboard then distributes 480-volt power to the existing 200 horsepower (hp), 350 hp, and 500 hp pump motors via underground conduits (Stantec 2025a).

Between 2017 and 2021, an average of 6,000 acre-feet per year of water pumped at the Sunset Pump Station used approximately 281,773 kilowatt-hours (kWh) per year. Therefore, average energy consumption at the pump station from 2017 to 2021 was approximately 47 kWh per acre-foot of water pumped. More recently, in 2004, the existing pump station used approximately 240,000 kWh to pump 5,200 acre-feet from the river. Therefore, on average, pumping an acre-foot of water required approximately 46.2 kWh of energy (Sutter Extension Water District 2021).

The greatest quantity of water is pumped in the month of May, during the rice flooding season. Pumping again increases in July, to accommodate heavy orchard irrigation before the harvest, as well as re-flooding of rice fields that have had their water levels lowered for pesticide application programs.

3.9.3 Regulatory Setting

Federal and State regulations discussed in Section 3.9.3, "Regulatory Setting," of Section 3.9, "Energy," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are summarized below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides Project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR.

Federal

Energy Policy Act of 2005

The Energy Policy Act (United States Code Title 42, Section 13201 et seq. [42 USC 13201 et seq.]) addresses topics related to U.S. energy production; energy efficiency; renewable energy; oil and gas; coal; vehicles and motor fuels, including ethanol, electricity, hydropower, and geothermal energy; and climate change technology. For example, the law increased the amount of biofuel that must be mixed with gasoline sold in the United States (U.S. Environmental Protection Agency 2024a).

Federal Fuel Efficiency Standards

The Energy Independence and Security Act of 2007 (Public Law 110-140; 42 USC 7545[o][2]) increased the supply of alternative fuels and set a Renewable Fuel Standard that required blending 36 billion gallons of renewable fuel into transportation fuels by 2022. The Energy Independence and Security Act also tightened the Corporate Average Fuel Economy (CAFE) standards that regulate average fuel economy in the vehicles produced by each major automaker. The law required that these standards be increased such that, by 2020, new cars and light trucks would deliver a combined fleet average of 35 miles per gallon (mpg) (U.S. Environmental Protection Agency 2024b).

Since then, several changes to the CAFE standards have occurred:

- In 2009, the standard for passenger cars and light trucks was increased to 35.5 mpg by model year 2016. Guidelines were made stricter, requiring that averages rise approximately 5 percent annually, roughly setting passenger cars at 41.09 mpg and light trucks at 34.42 mpg by model year 2016.
- In 2010, CAFE standards were proposed for medium-duty and heavy-duty trucks. Fuel economy improvements were to be 20 percent for tractors and 10 percent for gasoline trucks and diesel trucks by model year 2018.
- In 2011, the Obama Administration announced an agreement with 13 large automakers to increase fuel economy for passenger cars and light trucks to 54.5 mpg by Model Year 2025.
- A 2016 mid-term review analyzed how the industry was progressing with the new standards in place. The review found that the industry was making improvements but that the 54.5 mpg projection was unrealistic. In part, the mix of vehicles on which the projections were based used more passenger vehicles, while the actual market was closer to 50 percent passenger cars and 50 percent trucks and sport utility vehicles.
- In August 2018, the U.S. Environmental Protection Agency and U.S. Department of Transportation proposed the Safer Affordable Fuel-Efficient Vehicle Rules, which proposed to roll back some of the goals from 2012 and freeze the fuel economy goals to the 2021 target of 37 mpg.
- In June 2025, the U.S. Department of Transportation's National Highway Traffic Safety Administration published a final rule, "Resetting the Corporate Average Fuel Economy Program." However, this rule did not directly change the existing CAFE or medium- and heavy-duty standards and instead asserted the U.S. Department of Transportation's National Highway Traffic Safety Administration authority to bring the CAFE program into compliance with relevant statutory requirements, in accordance with the President's "Unleashing American Energy" Executive Order and the Secretary's "Fixing the CAFE Program" Memorandum.

State

California Energy Commission

The California Energy Commission is the State's primary energy policy and planning agency. The commission is committed to reducing the cost of energy and environmental impacts of energy use while ensuring a safe, resilient, and reliable energy supply. The core responsibilities of the California Energy Commission are to advance State energy policy, achieve energy efficiency, certify thermal power plants, invest in energy innovation, transform transportation, develop renewable energy, and prepare for energy emergencies (California Energy Commission 2025d).

California Public Utilities Commission

The California Public Utilities Commission regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. The commission is led by five Governor-appointed commissioners, who ensure that consumers have safe, reliable utility service at reasonable rates, protect against fraud, and promote the health of California's economy (California Public Utilities Commission 2025a).

California Renewable Energy Resources Act

The California Renewable Energy Resources Act added and amended various sections of the Fish and Game Code, Public Resources Code, and Public Utilities Code. This law codified California's commitment to expanding the Renewables Portfolio Standard to include 33 percent renewable power by 2020. Updates to the standard were subsequently codified in 2011 (33 percent renewable power by 2020), 2015 (50 percent renewable power by 2030), and 2018 (60 percent and 100 percent renewable power by 2030 and 2045, respectively) (California Public Utilities Commission 2025b).

Title 24 Building Energy Efficiency Standards (2022)

Title 24 of the California Code of Regulations is the California Building Code, which governs all aspects of building construction. The code includes standards mandating the use of energy efficiency measures in new construction. Since their establishment in 1977, the building efficiency standards (along with energy efficiency standards for appliances) have helped to reduce the costs of electricity and natural gas for California's consumers. The standards are updated every 3 years to allow consideration of new energy efficiency technologies. The latest update to the Title 24 standards became effective on January 1, 2023. The standards contain energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings and for additions and alterations to existing buildings (California Energy Commission 2025e).

California Integrated Energy Policy

In 2002, the California Legislature enacted Senate Bill 1389. The legislation reconstituted the State's responsibility to develop an integrated energy plan for electricity, natural gas, and transportation fuels. The California Energy Commission adopts and transmits to the Governor and Legislature a findings report every other year. Reports have been prepared since 2002.

Most recently, the California Energy Commission published the draft 2025 Integrated Energy Policy Report, which assesses major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors; provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The report covers such topics as decarbonization of buildings, integration of renewables and renewable energy, energy efficiency, energy equity, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, a natural gas assessment, a transportation energy demand forecast, and the California Energy Demand Forecast (California Energy Commission 2025f).

Regional and Local

Feather River Air Quality Management District Air Quality Management Plans

The Feather River Air Quality Management District (FRAQMD) regulates air quality through monitoring, evaluation, education, and implementation of control measures. FRAQMD has permitting authority over most types of stationary emission sources; the district can require operators of stationary sources to obtain permits and can impose emission limits, set fuel or material specifications, and establish operational limits to reduce air pollutant emissions (Feather River Air Quality Management District 2025).

Sutter and Yuba counties are designated as non-attainment areas for the State 1-hour, federal 8-hour, and State 8-hour standards for ozone and the State standard for PM_{10} (particulate matter that is 2.5 microns or less in diameter). As a result, FRAQMD is required to prepare air quality plans under the federal Clean Air Act and California Clean Air Act to meet the national and California ambient air quality standards for these pollutants. Maintenance plans are required for attainment areas that were previously designated as non-attainment, to ensure the continued attainment of the standards.

Current air quality plans adopted by FRAQMD include the following:

- *Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2021).
- *Implementation of SB 656 Measures to Reduce Particulate Matter* (Feather River Air Quality Management District 2005).

The air quality plans include several elements: emissions inventories that identify sources of air pollutants; evaluations of the feasibility of implementing potential opportunities to reduce emissions; sophisticated computer modeling to estimate future pollution levels; and a strategy for further reducing air pollution.

Sutter County General Plan

The following goal and policies in the Sutter County General Plan are applicable to the Proposed Project.

> **Goal I 5**: Balance the provision of energy to meet the needs of the County with support for energy conservation, efficiency, and renewable resources.
>
> > ***Policy I 5.1: Energy Efficient Buildings.*** Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to create energy efficient buildings. Such measures may include: facilitating energy efficient design and incorporating renewable energy components into new residential, commercial, and industrial developments; incorporating energy reduction measures for residential, commercial, and industrial buildings undergoing major renovations; initiating an incentive program for retrofit of residential buildings with renewable energy components; identifying and removing regulatory and procedural barriers to implementing energy efficient practices; providing public education and training of staff in energy efficiency; providing energy efficiency and solar energy financing; coordinating with other jurisdictions and groups to maximize energy efficiency and renewable resource development and usage; preparing an alternative energy development plan; and documenting energy compliance.
> >
> > ***Policy I 5.2: Energy Conservation.*** Implement energy conserving land use practices that include compact development, provision of bikeways and pedestrian paths, and the incorporation of transit routes and facilities.

Yuba County General Plan

The following goal in the Yuba County General Plan is applicable to the Proposed Project; no policies in the Yuba County General Plan apply to the Proposed Project.

> **Goal NR 7:** Improve energy efficiency, encourage renewable energy generation and use, and reduce ongoing household and business energy costs.

3.9.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendices F and G of the CEQA Guidelines, an impact related to energy is considered significant if the Proposed Project would do any of the following:

- Cause a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Pursuant to CEQA Guidelines Appendix F, Energy Conservation, this section also evaluates the following impact topics:

- Potential for an irreversible commitment of energy resources.
- Short-term gains versus long-term impacts on energy resources.
- Estimated energy consumption attributable to growth inducement from the Proposed Project.

See Section 3.3.11, "Other CEQA Issues," for additional information regarding significant irreversible environmental changes.

Issues Not Analyzed Further in this SEIR

The Proposed Project would not affect production of crude oil, natural gas, or geothermal energy. The geographic extent of proven oil, natural gas, and geothermal fields is quite large, and these resources can be accessed in many locations. The Proposed Project also would not preclude the ongoing and future exploration and extraction of oil and natural gas resources or the development of future geothermal facilities. Therefore, this section does not further evaluate access to oil, natural gas, and geothermal energy resources.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and

species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to energy resources associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance activities (long-term, permanent).

Impacts and Mitigation Measures

Table 3.9-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.9-1
SUMMARY OF IMPACT CONCLUSIONS—ENERGY

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.9-1: Implementation of the Proposed Project could result in substantial inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.	LTS	LTS
3.9-2: Implementation of the Proposed Project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	LTS	LTS

Notes: LTS = less than significant

Source: Data compiled by Environmental Science Associates in 2025

Impact 3.9-1: Implementation of the Proposed Project could result in substantial inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation. (Final SRGO Program EIR Impact 3.8-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including the potential impacts of construction activities for restoration projects that could result in the inefficient or wasteful consumption of energy resources, or changes to hydropower generation. (See Final SRGO Program EIR Section 4.6.9.) Related to the Proposed Project, the Final SRGO Program EIR evaluated the effect of direct and indirect energy use for construction activities such as the removal of small dams, legacy structures, placement of bioengineered stabilization materials, grading and excavation, and the installation of cofferdams during construction.

The Final SRGO Program EIR found that, because all construction activities for restoration projects permitted under the Order would incorporate all feasible control measures to improve equipment efficiency and reduce energy use and would only result in temporary increases in energy use, construction activities for these restoration projects would not be expected to result in the inefficient, wasteful, or unnecessary use of energy. (See Final SRGO Program EIR Section 3.8.2.) The impact was found to be less than significant and the Final SRGO Program EIR did not include any general protection measures related to the inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.

Similar to the restoration projects covered in the Final SRGO Program EIR, construction of the Proposed Project would require additional direct and indirect energy use for construction activities. Also, similar to the discussion in the Final SRGO Program EIR, direct energy use for the Proposed Project would involve using petroleum products and electricity to operate construction equipment. The left bank stabilization component of the Proposed Project, for example, would use gas- or diesel-powered construction equipment to grade the bank and construct a new gravel construction access road along the top of the bank. Indirect use for the Proposed Project would involve consuming energy to extract raw materials, manufacture items, and transport the goods and people necessary for construction activities. Indirect energy use for the Proposed Project would include the worker commute to the Proposed Project site.

Similar to the restoration projects permitted under the Order, the Proposed Project would implement all applicable control measures required by federal, State, and local rules and regulations. Such regulations are outlined in the Yuba and Sutter County general plans, as well as the FRAQMD air quality management plans. These plans include the *Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2021) and the *Implementation of SB 656 Measures to Reduce Particulate Matter* (Feather River Air Quality Management District 2005).

Construction of the Proposed Project would take up to three consecutive construction seasons, depending on field conditions. Because energy consumption during construction would be temporary and all applicable regulations related to energy consumption would be implemented, impacts would be ***less than significant***.

The Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.8, "Energy Resources," and Section 3.8.4 "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential construction impacts of the Proposed Project related to the inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential impacts of operations and maintenance activities of constructed facilities on the inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation. (See Final SRGO Program EIR Section 3.8.2.) The Final SRGO Program EIR evaluated operations, monitoring, and maintenance activities necessary to support the successful establishment of natural conditions and support the functionality of

artificial/constructed infrastructure, including monitoring restoration projects and cleaning fish screens. The Final SRGO Program EIR found that the constructed facilities and operations and maintenance of such facilities would have a less-than-significant impact because routine operations and maintenance activities for restoration projects permitted under the Order would not be expected to result in the inefficient, wasteful, or unnecessary use of energy. There were no general protection measures for energy consumption for constructed facilities and operations and maintenance of such facilities.

Consistent with the restoration projects evaluated in the Final SRGO Program EIR, the Proposed Project would require operations and maintenance activities. As described in Chapter 2, "Project Description," SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. Similar to baseline conditions, operations and maintenance activities would include sediment and debris clearing near the Sunset Pump Station. The fish screens would be self-cleaning; however, routine inspection and maintenance in accordance with the manufacturer's recommendations would be necessary and would generally require workers to access the Proposed Project site. Staging, materials stockpiling, and equipment access for these activities would be carried out in developed or disturbed areas of the Proposed Project site, including the work pad area, roads, and level areas that are used regularly for maintenance of the facilities.

As part of the Proposed Project, the Sunset Pump Station would be replaced and upgraded so that the pumps could be operated under lowered riverine hydraulic conditions to meet existing water supply obligations. With the Proposed Project, the water surface during pump operation at lower flows would be up to approximately 9 feet lower than under baseline conditions. Operation would include six new vertical turbine pumps and motor units capable of efficiently overcoming the increased static head caused by lower river levels. Pumping from a lowered river water elevation would require additional energy; therefore, a new transformer would be required to meet the higher power demands of the new pump station. The new transformer would be located at the current location of the existing transformer between the PG&E substation on site and the valve house.

As discussed previously, an average of approximately 47 kWh of energy is required to pump an acre-foot of water at the existing Sunset Pump Station. Under the Proposed Project, approximately 328,775 kWh would be required to pump a 5,600 acre-feet-per-year mean diversion from the Sunset Pump Station. Therefore, on average, 58.7 kWh of energy would be required to pump an acre-foot of water. This would represent an increase of approximately 12 kWh per acre-foot of water pumped with implementation of the Proposed Project. Power would continue to be supplied by PG&E.

Although the Proposed Project would increase energy consumption because of the increased power demands of the new pump station, the Proposed Project would adhere to all energy efficiency standards and regulations. Such standards and regulations include the Energy Policy Act of 2005 and Title 24 (the California Building Code). Therefore, although energy consumption would increase under the Proposed Project, energy consumption would not be inefficient, wasteful, or unnecessary. As discussed previously, PG&E produces enough energy to meet needs in both Sutter and Yuba counties. No changes to hydropower generation would occur with the Proposed Project. For these reasons, impacts would be ***less than significant***.

The effects of the Proposed Project's constructed facilities and operations and maintenance of such facilities would be consistent with those identified in the Final SRGO Program EIR (Section 3.8, "Energy

Resources," and Section 3.8.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project related to the inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.

Impact 3.9-2: Implementation of the Proposed Project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (Final SRGO Program EIR Impact 3.8-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential impacts of construction activities of restoration projects that could conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (See Final SRGO Program EIR Section 3.8.2.) Related to the Proposed Project, the Final SRGO Program EIR evaluated the effect of direct and indirect energy use for construction activities such as the removal of small dams, legacy structures, placement of bioengineered stabilization materials, grading and excavation, and the installation of cofferdams during construction. Additionally, the Final SRGO Program EIR evaluated restoration projects that would require undeveloped land that otherwise could have been developed for the implementation of other State and local plans for renewable energy or efficiency. The Final SRGO Program EIR found that, because all construction activities for restoration projects permitted under the Order would incorporate all feasible control measures to improve equipment efficiency and because construction would be temporary and would not result in the long-term obstruction of undeveloped land, construction activities for the restoration projects permitted under the Order would not be expected to conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (See Final SRGO Program EIR Section 3.8.2.) The Final SRGO Program EIR did not include any general protection measures regarding a potential conflict with or obstruction of a State or local plan for renewable energy or energy efficiency.

Similar to the restoration projects covered in the Final SRGO Program EIR, construction of the Proposed Project would require direct and indirect energy use for construction activities. Also similar to the restoration projects permitted under the Order, the Proposed Project would implement all applicable control measures required by federal, State, and local rules and regulations. Such regulations are outlined in the Yuba and Sutter County general plans and in the FRAQMD air quality management plans. These plans include the *Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2021) and the *Implementation of SB 656 Measures to Reduce Particulate Matter* (Feather River Air Quality Management District 2005). The Proposed Project would also be constructed in accordance with energy standards such as those in the Energy Policy Act of 2005 and Title 24 (the California Building Code). Additionally, the constructed facilities portion of the Proposed Project would be located in the footprint of existing facilities, and therefore would not result in the obstruction of undeveloped land that would otherwise have been used as part of a State or local plan for renewable energy or energy efficiency.

Construction of the Proposed Project would take up to three consecutive construction seasons, depending on field conditions. Because energy consumption during construction would be temporary and all applicable regulations related to energy consumption would be implemented, impacts would be ***less than significant***.

The Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.8, "Energy Resources," and Section 3.8.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project related to the potential conflict with or obstruction of a state or local plan for renewable energy or energy efficiency.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential for the types of restoration projects permitted under the SRGO to conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (See Final SRGO Program EIR Section 3.8.2.) The Final SRGO Program EIR evaluated operations, monitoring, and maintenance activities necessary to support the successful establishment of natural conditions and support the functionality of artificial/constructed infrastructure, including monitoring restoration projects and cleaning fish screens. The Final SRGO Program EIR found that the constructed facilities and operations and maintenance of such facilities would have a less-than-significant impact. There were no general protection measures to manage the potential for restoration projects to conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (See Final SRGO Program EIR Section 3.8.22.)

Consistent with the restoration projects evaluated in the Final SRGO Program EIR, the Proposed Project would require operations and maintenance. Similar to baseline conditions, operations and maintenance activities would include clearing sediment and debris near the Sunset Pump Station. With the Proposed Project, the water surface during pump operation at lower flows would be up to approximately 9 feet lower than under baseline conditions. As discussed previously, pumping from a lowered water surface would require additional energy; therefore, a new transformer would be constructed at the current location of the existing transformer to meet the higher power demands of the new pump station. Under the Proposed Project, an average of approximately 59 kWh of energy would be required to pump an acre-foot of water, which would be an increase of 12 kWh per acre-foot of water pumped with the implementation of the Proposed Project. Power would continue to be supplied by PG&E (Stantec 2025b).

The Proposed Project would increase energy consumption because of the lowered water surface in the Feather River; however, the Proposed Project would implement energy conservation or efficiency efforts to the extent feasible and would be constructed in adherence to the California Building Code, which requires the increased use of renewable resources and practices that would enhance energy efficiency. Furthermore, the Proposed Project would not result in the conversion of any undeveloped land that could have been used to meet any State or local plans for renewable energy or energy efficiency. Therefore, the impact of the Proposed Project would be ***less than significant***.

The Proposed Project's constructed facilities and operations and maintenance of such facilities are consistent with those identified in the Final SRGO Program EIR (Section 3.8, "Energy Resources," and Section 3.8.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed constructed facilities and operations and maintenance impacts of the Proposed Project related to the potential conflict with or obstruction of a State or local plan for renewable energy or energy efficiency.

3.10 Hazards and Hazardous Materials

3.10.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to hazards and hazardous materials. The environmental setting and the evaluation of potential impacts related to hazards and hazardous materials are based on a review of site-specific analyses and publicly available literature and data.

Potential flooding hazards are addressed in Section 3.11, "Hydrology and Water Quality." Effects on emergency services at the Proposed Project site are discussed under "Public Services" in Section 3.3, "Environmental Issues Not Requiring Further Analysis."

No comments addressing hazards and hazardous materials were received in response to the Notice of Preparation (NOP). See **Appendix A** for NOP comment letters.

3.10.2 Environmental Setting

A "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (California Health and Safety Code Section 25501[n]). The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and State laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects; Code of Federal Regulations [CFR] Title 40, Section 261.24), ignitable (has the ability to burn; 40 CFR Section 261.21), corrosive (causes severe burns or damage to materials; 40 CFR Section 261.22), or reactive (causes explosions or generates toxic gases; 40 CFR Section 261.23).

"Hazardous wastes" are hazardous substances that no longer have practical use, such as materials that have been spent, discarded, discharged, spilled, or contaminated, or are being stored until they can be disposed of properly (California Code of Regulations Title 22, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria established in Sections 66261.20 through 66261.24 of California Code of Regulations Title 22. Hazardous substances are regulated by multiple agencies, as described below in Section 3.10.3, "Regulatory Setting," and cleanup requirements of hazardous material releases are determined on a case-by-case basis according to the regulatory agency (e.g., the California Department of Toxic Substances Control [DTSC] or a regional water quality control board [RWQCB]) with lead jurisdiction over a contaminated site.

The Proposed Project would comprise three main elements: weir removal and river restoration, pump station replacement and upgrade and installation of new fish screens, and stabilization of the left bank failure area. As discussed in Chapter 2, Section 2.2, "Project Location," the main site for the Proposed Project in and within the vicinity of the Feather River, the four alternative staging areas, and Sutter

Extension Water District's (SEWD's) maintenance yard (which may be used for spoils storage) are referred to collectively in this document as the "Proposed Project site."

The region surrounding the Feather River in the area of the Proposed Project site was historically used primarily for mining, ranching, farming, grazing, and logging. The Feather River had been developed for irrigation by the late 19th century. The Sunset Weir was originally constructed in the 1920s. The Sunset Weir and Sunset Pumping Plant were originally part of the irrigation district overseen by the Sutter-Butte Canal Company. In 1920, the company began construction of the pumping plant. Improvements at the Proposed Project site occurred throughout the latter half of the 20th century.

To identify potential existing hazardous materials in the vicinity of the Proposed Project site, a review was conducted of hazardous materials regulatory databases. The results are described below.

Hazardous Materials Database Review and Site Investigations

In California, regulatory databases maintained by federal, State, and local agencies that list hazardous materials sites are consolidated in the "Cortese List" pursuant to Government Code Section 65962.5, which has been in effect since 1992. However, subsequent changes to the availability of web-based information have eliminated the necessity for this consolidated list, and various responsible agencies maintain the lists and databases identified below.

California Department of Toxic Substances Control:

- EnviroStor database of hazardous waste and substances sites.
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, as included in EnviroStor.

State Water Resources Control Board:

- GeoTracker database of leaking underground storage tank sites by county and fiscal year (State Water Resources Control Board 2025).
- List of solid waste disposal sites with waste constituents exceeding hazardous waste levels outside the waste management unit.
- List of "active" cease and desist orders and cleanup and abatement orders.

These databases identify sites with suspected and confirmed releases of hazardous materials to subsurface soil and/or groundwater. The State Water Resources Control Board's (State Water Board's) GeoTracker database includes leaking underground storage tanks, permitted underground storage tanks, U.S. Department of Defense sites, and Cleanup Program sites. DTSC's EnviroStor database includes federal and State response sites; voluntary, school, and military cleanups and corrective actions; and permitted sites. The reporting and statuses of these sites change as hazardous materials sites are identified, monitored, and remediated. Typically, a listed site is considered to no longer be of concern once it has been demonstrated that existing site uses, when combined with the levels of identified contamination, present no substantial risk to human health or the environment and the case is closed by the overseeing agency.

No open hazardous materials sites are located at or near the Proposed Project site (California Department of Toxic Substances Control 2025; State Water Resources Control Board 2025).

Other Potential Hazards on the Proposed Project Site

Proximity to Schools

No schools are located within one-quarter mile of the Proposed Project site. The nearest school to the Proposed Project site is Encinal Elementary School, approximately 1.9 miles to the southwest.

Proximity to Airports

The main areas of concern related to airport hazards are overflight safety, airspace protection, flight patterns, and land use compatibility. No airports or airport influence areas are located within 2 miles of the Proposed Project site.

Wildfire Hazards

The Fire Hazard Severity Zone maps are developed using a science-based, field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered such as fire history, existing and potential fuels (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. There are three levels of hazard in the State Responsibility Areas: moderate, high, and very high. The Proposed Project site is not located in a Fire Hazard Severity Zone (California Department of Forestry and Fire Protection 2023); therefore, wildfire risks are low.

Disease Vectors

A "disease vector" is a carrier of disease organisms. The vector may be purely mechanical, as when houseflies spread enteric organisms; or it may be biological, wherein the disease organism multiplies or undergoes change within the vector, as when viruses develop in mosquitoes.

In California, the West Nile virus, St. Louis encephalitis, and western equine encephalomyelitis are the three most important viral mosquito-borne diseases. The viruses that cause these diseases are maintained in nature through a mosquito-bird-mosquito cycle. Typically, water bodies with poor circulation, continually slow-changing water levels, higher temperatures, and higher organic content produce greater numbers of mosquitoes. Most adult mosquitoes remain close to their point of origin, and their ability to travel is heavily dependent on physical phenomena such as wind. Some mosquitoes feed on mammals and other animal hosts and others feed on fruits and plant nectars. At the Proposed Project site, mosquitoes could breed in any still water. County vector control districts provide mosquito and other vector control. The Sutter-Yuba Mosquito and Vector Control District provides and manages mosquito and other vector control at the Proposed Project site. The district has identified confirmed positive samples of West Nile virus activity within 1 mile of the Proposed Project site in the past 20 years. In the past year, there was one case of West Nile virus activity in the town of Live Oak, approximately 2 miles from the Proposed Project site (Sutter-Yuba Mosquito and Vector Control District 2025).

3.10.3 Regulatory Setting

Federal and State regulations discussed in Section 3.10.3, "Regulatory Setting," of Section 3.10, "Hazards and Hazardous Materials," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR.

Federal

The federal agencies with primary responsibility for hazards and hazardous materials management are the U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, and U.S. Department of Transportation. **Table 3.10-1** summarizes federal laws, regulations, and responsible agencies related to hazardous materials management.

TABLE 3.10-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Federal Law or Responsible Federal Agency	Description
Hazardous Waste Handling and Management	Resource Conservation and Recovery Act of 1976	Under the RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	This law amended the RCRA in 1984, affirming and extending the "cradle-to-grave" system of regulating hazardous wastes. The amendments prohibit the use of certain techniques for disposal of some hazardous wastes.
	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act)	This law imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Materials Transportation	U.S. Department of Transportation	DOT has regulatory responsibility for the safe transportation of hazardous materials. DOT regulations govern all means of transportation except packages shipped by mail.
	U.S. Postal Service	U.S. Postal Service regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries.

Notes: DOT = U.S. Department of Transportation; EPA = U.S. Environmental Protection Agency; OSHA = U.S. Occupational Safety and Health Administration; RCRA = Resource Conservation and Recovery Act

Source: Data compiled by Environmental Science Associates in 2025.

State

Several State agencies have primary responsibility for hazardous materials management in the region: DTSC and the Central Valley Regional Water Quality Control Board (both part of the California Environmental Protection Agency), California Occupational Safety and Health Administration, California Department of Public Health, California Highway Patrol, California Geologic Energy Management

Division, and California Department of Transportation. **Table 3.10-2** summarizes State laws, regulations, and responsible agencies related to hazardous materials management.

TABLE 3.10-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program; Certified Unified Program Agency (Health and Safety Code Section 25404 et seq.)	The California Environmental Protection Agency adopted regulations in January 1996 that implemented the Unified Program at the local level. The agency responsible for implementation of the Unified Program is called the CUPA. The CUPA for Sutter County is Sutter County's Environmental Health Division. The CUPA for Yuba County is the Yuba County Department of Environmental Health.
	California Fire Code, California Code of Regulations Title 24, Chapter 9, and California Building Code, Part 2	The California Fire Code regulates the storage and handling of hazardous materials, including the requirement for secondary containment, separation of incompatible materials, and preparation of spill response procedures.
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985; CUPA	The California Hazardous Materials Release Response Plan and Inventory Law of 1985, also known as the Business Plan Act, requires that any business that stores hazardous materials on site prepare a Hazardous Materials Business Plan and submit it to the local CUPA, which in this case is either the Sutter County Environmental Health Division or the Yuba County Department of Environmental Health.
	California Hazardous Waste Control Act; California Health and Safety Code Section 25100 et seq.; DTSC	Under the California Hazardous Waste Control Act, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act (California Health and Safety Code Section 25300 et seq.), also known as the State Superfund Law, which provides for the investigation and remediation of hazardous substances pursuant to State law.
	Health and Safety Code Sections 25500 and 25531	Section 25500 of the Health and Safety Code regulates business and area plans related to the inventory, handling, and release or threatened release of hazardous materials. Section 25531 implements the federal regulations under the Clean Air Act for the prevention of accidental releases of regulated substances, with certain State-specific amendments.
Hazardous Materials Transportation	California Code of Regulations Titles 13, 22, and 26	These regulations governing the transportation of hazardous waste that originates in and passes through the state include requirements for shipping, containers, and labeling.
	CHP and Caltrans; California Vehicle Code Sections 31303–31309	These two State agencies have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies.
Disposal of Hazardous Waste	California Code of Regulations, Title 22, Division 4.5	California Code of Regulations Title 22 contains an array of standards and requirements for the identification, collection, transport, disposal, and recycling of hazardous and universal wastes. "Universal wastes" are defined as those wastes identified in California Code of Regulations Title 22, Section 66273.9, including batteries, electronic devices, mercury-containing equipment, lamps, cathode ray tubes, and aerosol cans. Requirements include recycling, recovery, the return of spent items to the manufacturer, or disposal at an appropriately permitted facility. Title 22, Division 4.5 also provides restrictions and standards relevant to waste destination facilities and provides authorization requirements for various waste handlers. Title 22 includes California's Universal Waste Rule and other additional waste handling and disposal requirements.

Classification	Law or Responsible State Agency	Description
Occupational Safety	Cal/OSHA regulations (California Code of Regulations Title 8)	Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations. Cal/OSHA standards are generally more stringent than federal regulations. They require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans.
Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002)	RWQCBs	A discharger whose project disturbs 1 acre or more of soil or disturbs less than 1 acre but is part of a larger common plan of development that in total disturbs 1 acre or more, must obtain coverage under the NPDES Construction General Permit (Order 2022-00547-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a SWPPP that includes specific BMPs designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories—erosion control, sediment control, waste management, and good housekeeping—and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.
	California Code of Regulations Title 3, Division 6	The California Department of Pesticide Regulation is responsible for regulating the use of pesticides in California; it evaluates and registers pesticides, monitors their sale and use, and enforces regulations to protect human health and the environment.
Mosquito and Vector Control	Health and Safety Code Sections 2002(j), 2085(a), and 2061; Sutter-Yuba Mosquito and Vector Control District	Under the California Health and Safety Code, mosquito and vector control districts may legally abate a public nuisance, defined as “Any water that is a breeding place for vectors” and “Any activity that supports the development, attraction, or harborage of vectors, or that facilitates the introduction or spread of vectors.” (Health and Safety Code Section 2002[j]). Abatement can result in civil penalties of up to $1,000 per day (Health and Safety Code Sections 2085[a] and 2061).

Notes: BMP = best management practice; Cal/OSHA = California Occupational Safety and Health Administration; Caltrans = California Department of Transportation; CHP = California Highway Patrol; Construction General Permit = General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities; CUPA = Certified Unified Program Agency; DTSC = California Department of Toxic Substances Control; EPA = U.S. Environmental Protection Agency; NPDES = National Pollutant Discharge Elimination System; OSHA = U.S. Occupational Safety and Health Administration; RWQCB = Regional Water Quality Control Board; SWPPP = stormwater pollution prevention plan

Source: Data compiled by Environmental Science Associates in 2025.

Regional and Local

Sutter County General Plan

The following goals and policies in the Sutter County General Plan would be applicable to the Proposed Project (Sutter County 2011).

Goal PHS 3: Protect health, safety, property, and the environment from the use, transport, disposal, and release/discharge of hazardous materials and waste.

Policy PHS 3.1: Use and Disposal. Ensure that the use and disposal of hazardous materials and waste complies with appropriate federal, state, and local requirements.

Policy PHS 3.3: Project Review. Coordinate with appropriate state and federal agencies to review all proposed development projects that manufacture, use, or transport hazardous materials and waste.

Policy PHS 3.4: Hazardous Materials Business Plan (HMBP). Require the owner or operator of a facility to complete a HMBP if the facility handles hazardous materials or a mixture containing hazardous materials that has a quantity equal to or greater than 55 gallons for liquid, 500 pounds for solids, or 200 cubic feet for compressed gas. Provide a copy of the HMBP to the Sutter County Environmental Health Division (as a Certified Unified Program Agency).

Goal PHS 4: Respond appropriately, effectively, and efficiently to natural and human-made emergencies and disasters.

Policy PHS 4.4: Emergency Access. Require minimum road and driveway widths and clearances around structures consistent with established requirements in order to ensure emergency access.

Policy PHS 4.5: Emergency and Disaster Preparedness Training. Coordinate with local and regional agencies to regularly conduct emergency and disaster preparedness training to test operational and emergency plans.

Yuba County General Plan

The following goals and policies in the Yuba County General Plan are applicable to the Proposed Project (Yuba County 2011).

Goal HS7: Hazards and Hazardous Materials. Protect the community from the harmful effects of hazards and hazardous materials.

Policy HS7.1. The County will assess risks associated with public investments and other County-initiated actions, and new private developments shall assess and mitigate hazardous materials risks and ensure safe handling, storage, and movement in compliance with local, state, and federal safety standards.

3.10.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to hazards and hazardous materials is considered significant if the Proposed Project would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

In addition, a significant impact would occur if the types of restoration projects that would be permitted under the Order would:

- Create vector habitat that would pose a significant public health hazard.

The following potential impacts are evaluated elsewhere in this Draft SEIR:

- Potential for increased flood risk and flood hazards (see Section 3.11, "Hydrology and Water Quality").
- Potential for an increase in wildfire risk in high fire hazard severity zones (see "Wildfire" in Section 3.3, "Environmental Issues Not Requiring Further Analysis").

Issues Not Analyzed Further in This SEIR

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

As discussed in Section 3.10.2, "Environmental Setting," the Proposed Project site is not located within 0.25 mile of an existing or proposed school. Therefore, there is no risk of exposing school occupants and school site users to the effects of accidental spills of hazardous materials. No impact would occur with implementation of the Proposed Project; therefore, this impact is not evaluated in further detail in the impact analyses below.

For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.

As discussed in Section 3.10.2, "Environmental Setting," the Proposed Project site is not located within 2 miles of a public airport or public use airport; therefore, implementation of the Proposed Project would not result in a safety hazard or excessive noise for people residing or working on the Proposed Project site. No impact would occur; therefore, this impact is not evaluated in further detail in the impact analyses below.

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

As discussed in Section 3.10.2, "Environmental Setting," the Proposed Project site is not located in an area susceptible to wildland fires. Therefore, no impact related to wildland fires would occur and this impact is not evaluated in further detail in the impact analyses below.

Methodology and Assumptions

As discussed in Chapter 1, the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances.

The Proposed Project would be regulated by the various laws, regulations, and policies summarized in Section 3.10.3, "Regulatory Setting." This analysis assumes compliance by the Proposed Project with applicable federal, State, and local laws and regulations, and local and State agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations would be a condition of permit approval. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts of the Proposed Project related to hazards and hazardous materials. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance activities. The analysis is based on a review of relevant literature and occurrences databases, such as the State Water Board's GeoTracker and DTSC's EnviroStor websites.

Impacts and Mitigation Measures

Table 3.10-3 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.10-3
SUMMARY OF IMPACT CONCLUSIONS—HAZARDS AND HAZARDOUS MATERIALS

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.10-1: Implementation of the Proposed Project could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a significant hazard to the public or the environment.	LTSG	LTSG
3.10-2: Ground-disturbing activities for construction of the Proposed Project could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials.	LTSM	LTS
3.10-3: Implementation of the Proposed Project could interfere with emergency response access or with an adopted emergency response or evacuation plan.	LTS	LTS
3.10-4: Implementation of the Proposed Project could create vector habitat that would pose a significant public health hazard.	LTS	LTS

Notes: LTS = less than significant; LTSG = less than significant with implementation of general protection measures; LTSM = less than significant with implementation of Statewide Restoration General Order mitigation measures

Source: Data compiled by Environmental Science Associates in 2025

Impact 3.10-1: Implementation of the Proposed Project could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a significant hazard to the public or the environment. (Final SRGO Program EIR Impact 3.10-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects that could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a hazard to the public or the environment. (See Final SRGO Program EIR Section 4.6.9.) Related to the Proposed Project, the Final SRGO Program EIR evaluated the use of limited quantities of hazardous materials commonly used during construction activities (e.g., fuels for equipment, oils, hydraulic fluids, solvents, cleaners, sealants, and lubricants). The Final SRGO Program EIR found that during the construction of projects requiring equipment that would use fuel, oil, and/or coolant, accidental spills could occur while equipment is refueled, or equipment could be upset, resulting in the release of fuel, oil, and/or coolant into the surrounding environment that could result in potentially significant impacts. (See Final SRGO Program EIR Section 3.10.4.)

To reduce impacts on the public or the environment from an accidental release of hazardous materials during construction activities to less than significant, the Final SRGO Program EIR included the following general protection measures when applicable to a given project: GPM-6, GPM-7, GPM-10 through GPM-12, GPM-14, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, IWW-1 through IWW-3, IWW-6, and IWW-13, and VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also **Appendix B**.)

Similar to the restoration projects covered in the Final SRGO Program EIR, construction of the Proposed Project would require the use of limited quantities of hazardous materials commonly used during construction activities. If improperly used, stored, handled, transported, or disposed of, these materials

could be accidentally released, which could expose construction workers, the public, and the environment (including soil, groundwater, or surface water) to contamination. To address the use of hazardous materials during construction activities, the above-referenced general protection measures in the Final SRGO Program EIR would apply to the Proposed Project. This impact would therefore be ***less than significant with implementation of general protection measures***.

The Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the construction impacts of the Proposed Project related to an accidental release of hazardous materials resulting in a hazard to the public or the environment.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential impacts of operations and maintenance activities of constructed facilities on an accidental release of hazardous materials. (See Final SRGO Program EIR Section 3.10.2.) The Final SRGO Program EIR evaluated operations, monitoring, and maintenance activities necessary to support the successful establishment of natural conditions and support the functionality of artificial/constructed infrastructure, including conducting mechanical and chemical weed control; installing fencing and signage; adjusting grading or soils composition; and installing and operating monitoring equipment such as groundwater wells, flow gauges, depth gauges, cameras, and stakes. (See Final SRGO Program EIR Section 3.10.2.) The Final SRGO Program EIR found that potential impacts would be reduced in scope because equipment use for maintenance activities would be expected to be smaller in scale and more spread out over time than during project construction. Therefore, operational impacts would be less than significant. The Final SRGO Program EIR stated that the general protection measures listed above for construction activities would still be implemented once a facility is constructed. (See Final SRGO Program EIR Section 3.10.2.)

Consistent with the restoration projects evaluated in the Final SRGO Program EIR, the Proposed Project would require operations and maintenance. As described in Chapter 2, "Project Description," SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. Operation and maintenance activities for the Proposed Project would be consistent with the types of activities evaluated in the Final SRGO Program EIR. Similar to baseline conditions, maintenance activities would include sediment and debris clearing near the Sunset Pump Station. The fish screens would be self-cleaning; however, routine inspection and maintenance in accordance with the manufacturer's recommendations would be necessary to ensure that all screens and associated cleaning systems are functioning properly. Manual debris removal may be required occasionally and would generally require workers to access the Proposed Project site. Staging, materials stockpiling, and equipment access for these activities would be carried out in developed or disturbed areas of the Proposed Project site, including the work pad area, roads, and level areas that are used regularly for maintenance of the facilities. The potential effects of these activities would be reduced in scope compared to the effects of construction activities because equipment use for maintenance activities would be expected to be smaller in scale and more spread out over time than during project construction.

Implementation of the general protection measures and adherence to all applicable regulations outlined in Section 3.10.2, "Regulatory Setting," would ensure that all hazardous materials on-site are used, stored, and managed on site properly. Therefore, this impact would be ***less than significant with the implementation of general protection measures***.

The constructed facilities and operations and maintenance activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed operations, monitoring, and maintenance impacts of the Proposed Project related to an accidental release of a hazardous material resulting in a hazard to the public or the environment.

Impact 3.10-2: Ground-disturbing activities for construction of the Proposed Project could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials. (Final SRGO Program EIR Impact 3.10-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These include potential impacts of construction activities for restoration projects that would involve ground-disturbing activities that could cause a release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials (see Final SRGO Program EIR Section 3.10.2). Ground-disturbing construction activities would include activities such as excavation, clearing of the land for site preparation, grading, and cut and fill. Additionally, if databases documenting Cortese List sites were to identify hazardous materials release sites on the Proposed Project site, then depending on the activities that could disturb known sites, impacts could be potentially significant.

The Final SRGO Program EIR stated that the general protection measures listed for Impact 3.10-1 would be followed to reduce the impacts of ground-disturbing activities related to the release of or exposure to previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks from hazardous materials. In addition, as part of the State Water Board's or RWQCB's issuance of a notice of applicability for a restoration project under the Order, compliance with Final SRGO Program EIR Mitigation Measures HAZ-1 through HAZ-3 would be required when applicable to a given project. Implementation of these mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, the appropriate RWQCB, or other authorizing regulatory agency.

The Final SRGO Program EIR found this impact to be less than significant with implementation of the general protection and mitigation measures. (See Final SRGO Program EIR Section 3.10.2.)

Similar to the types of restoration projects evaluated in the Final SRGO Program EIR, the Proposed Project would include ground-disturbing elements to construct project components, including the Sunset Weir removal in the Feather River and the left bank stabilization. The Sunset Pump Station replacement and upgrade would also require dewatering and groundwork, which could uncover previously unidentified contaminated soil and/or groundwater.

These ground-disturbing activities could cause the release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials. In addition, sediments excavated during dredging activities may contain hazardous materials, which could expose construction workers to health and safety risks. Although the Proposed Project site is not located in an area of known contamination or a hazardous materials site, earthwork or dewatering required during Proposed Project construction would have the potential to encounter soil or groundwater contamination. Therefore, construction activities from the Proposed Project may have potentially significant impacts related to the potential exposure of construction workers, the public, and the environment to existing on-site hazardous materials. This impact would be potentially significant.

The general protection measures included for Impact 3.10-1 would be followed to reduce the impacts of ground-disturbing activities related to the release or exposure to previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks from hazardous materials. In addition, compliance with Final SRGO Program EIR Mitigation Measures HAZ-1 through HAZ-3 would be required for the Proposed Project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles; see also Appendix B.) Although there are no known areas of soil or groundwater contamination on the Proposed Project site, implementation of Mitigation Measures HAZ-1 through HAZ-3 would be applicable to all Project components and would mitigate any potential hazardous conditions at the Proposed Project site to less than significant.

Implementing the general protection measures included for Impact 3.10-1 along with Final SRGO Program EIR Mitigation Measures HAZ-1 through HAZ-3 would reduce the impact related to a potential discovery of previously unidentified contaminated soil and/or groundwater, including the septic tanks and leach fields, to a less-than-significant level. Therefore, this impact would be ***less than significant with implementation of mitigation measures*** (Final SRGO Program EIR Mitigation Measures HAZ-1 through HAZ-3; see Appendix B).

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project's ground-disturbing activities related to the potential to cause the release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These include impacts related to the potential for constructed facilities (natural and artificial infrastructure) and operations and maintenance of those facilities to cause the release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials due to ground disturbance. (See Final SRGO Program EIR Section 3.10.4.) Operational activities could involve ground-disturbing activities to install monitoring equipment (e.g., groundwater wells, flow gauges, depth gauges, cameras, stakes, and similar equipment). The Final SRGO Program EIR states that although ground-disturbing activities could occur after restoration projects have been constructed, these activities would be

limited and would occur in the same areas as when the facilities were constructed. The Final SRGO Program EIR found impacts to be less than significant. (See Final SRGO Program EIR Section 3.10.4.) The Final SRGO Program EIR did not include any general protection measures applicable to this impact.

Once construction is completed, Proposed Project operations would be relatively similar to baseline conditions. SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. Staging, materials stockpiling, and equipment access for these activities would be carried out in developed or disturbed areas of the Proposed Project site, including the work pad area, roads, and level areas that are used regularly for maintenance of the facilities.

Ground-disturbing activities during Proposed Project operations and maintenance would include the removal of sediment and debris, which may be disked into the ground. Scrapers, bulldozers, backhoes, loaders, graders, excavators, skid-steers, pickup trucks, hand tools, or other appropriate equipment would typically be used to remove sediment. Sediment and debris removal activities would generally be conducted annually, or as needed. As with current conditions, emergency repairs may be necessary after significant storms, although these occurrences are expected to be rare.

Ground-disturbing activities for operations and maintenance of the Proposed Project would be limited and would occur in the same areas as where the facilities were constructed. Therefore, operational activities associated with the Proposed Project would not be expected to encounter previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks associated with hazardous materials. Therefore, this impact would be ***less than significant***.

The effects of the Proposed Project's constructed facilities and operations and maintenance activities are consistent with those identified in the Final SRGO Program EIR (Section 3.10" Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed post-construction impacts related to the potential of the Proposed Project's ground-disturbing activities to cause the release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials.

Impact 3.10-3: Implementation of the Proposed Project could interfere with emergency response access or with an adopted emergency response or evacuation plan. (Final SRGO Program EIR Impact 3.10-4.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for construction activities for restoration projects to physically interfere with emergency response access, interfere with an adopted emergency response plan or evacuation plan, or result in inadequate emergency access. The Final SRGO Program EIR determined that impacts related to emergency response or evacuation plans or to inadequate emergency access would be potentially significant. (See Final SRGO Program EIR Section 3.10.4.)

The Final SRGO Program EIR did not include any general protection measures applicable to this impact. As part of the State Water Board's or RWQCB's issuance of a notice of applicability for a project, compliance with Final SRGO Program SEIR Mitigation Measure HAZ-5 would be required when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) The Final SRGO Program EIR found this impact to be less than significant with implementation of mitigation measures.

As discussed in Chapter 2, Section 2.4.5, "Proposed Constructed Methods," the Proposed Project site would be accessed via State Route 70 and existing unnamed dirt- or gravel-surfaced agricultural roads; the west bank of the Feather River would be accessed via State Route 99 and the west levee of the Feather River. Heavy equipment entering and exiting the Proposed Project site could temporarily disrupt traffic. However, the Proposed Project would not result in street closures or lane blockages that could reduce the number of travel lanes and require rerouting traffic, given that the number of vehicle trips would be limited because of the rural nature of the surrounding area. In addition, the Proposed Project site is not located along an emergency response access or evacuation route. Therefore, the Proposed Project would not alter emergency response times, interfere with adopted emergency response or evacuation plans, or result in inadequate emergency access, and this impact would be ***less than significant***.

Because the impact would be less than significant, Mitigation Measure HAZ-5 is not applicable to the Proposed Project.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project related to interference with emergency response access or with an adopted emergency response or evacuation plan, or to the potential to result in inadequate emergency access.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These include impacts related to the potential for constructed facilities (natural and artificial infrastructure) and operations and maintenance of those facilities to interfere with emergency response access or with an adopted emergency response or evacuation plan, or to result in inadequate emergency access. The Final SRGO Program EIR found that routine operations and maintenance of constructed facilities would not be anticipated to interfere with emergency response access or adopted emergency response or evacuation plans. Therefore, impacts were determined to be less than significant. (See Final SRGO Program EIR Section 3.10.4.)

Once construction is completed, operations and maintenance for the Proposed Project would be expected to be similar to baseline conditions. Staging, materials stockpiling, and equipment access for these activities would be carried out in developed or disturbed areas of the Proposed Project site, including the work pad area, roads, and level areas that are used regularly for maintenance of the facilities. Work during operations and maintenance would occur on a much smaller scale than during Proposed Project construction. Furthermore, SEWD would comply with all federal, State, and local regulations and policies during

operations and maintenance to help reduce impacts related to emergency response access and adopted emergency response or evacuation plans. This impact would be ***less than significant***.

The effects of the Proposed Project's constructed facilities and operations and maintenance activities are consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed post-construction impacts related to interference with emergency response access or with an adopted emergency response or evacuation plan, or to the potential to result in inadequate emergency access.

Impact 3.10-4: Implementation of the Proposed Project could create vector habitat that would pose a significant public health hazard. (Final SRGO Program EIR Impact 3.10-6.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including potential impacts of construction activities, constructed facilities (natural and artificial infrastructure), and operations and maintenance of those facilities on the creation of vector habitat. Mosquitoes require standing water to complete their growth cycles; any body of standing water that remains undisturbed for multiple days represents a potential mosquito breeding site. Similar to restoration projects analyzed under the Order, the potential for vector-related public health hazards related to mosquitoes could continue during ongoing operations that would result in new areas of standing water. (See Final SRGO Program EIR Section 3.10.4.)

The Final SRGO Program EIR did not include any general protection measures applicable to this impact. The Final SRGO Program EIR included Mitigation Measure HAZ-6 to mitigate any impacts related to vector minimization. The Final SRGO Program EIR found this impact to be less than significant with implementation of the mitigation measure.

Similar to restoration projects evaluated in the Final SGRO Program EIR, implementation of the Proposed Project would alter the hydrology and drainage of the Proposed Project site. Although major construction activities would typically be implemented during the dry season (May–October), some construction activities might be required during the flood season (November–April). Construction of the Proposed Project would use best management practices to control the stormwater leaving the site (see Impact 3.11-1 in Section 3.11, "Hydrology and Water Quality"). Stagnant water could occur in construction areas, creating potential mosquito habitat; however, ponded water would likely be infrequent and would not be present long enough to create mosquito habitat. Furthermore, the Proposed Project site is not located adjacent to a populated area.

Constructed elements of the Proposed Project would not increase the amount of stagnant water on the Proposed Project site. Weir removal conducted as part of the Proposed Project would allow for a more natural riverine morphology with variable and distinct habitat types (e.g., deep pools and shallow riffles), compared to the current backwatered and more slough-like conditions that persist for miles upstream of the existing weir; thus, weir removal would restore natural fish passage conditions for the Feather River channel. The final grade of the restored Feather River channel would be designed to provide a stable transition from upstream to downstream and reduce scour downstream The Proposed Project would

therefore improve river flows and would not result in stagnant water on the Proposed Project site. In addition, the Proposed Project site is not located adjacent to a populated area. Therefore, the Proposed Project would not increase vector habitat compared to baseline conditions on site, and this impact would be ***less than significant***.

Because the impact would be less than significant, Mitigation Measure HAZ-6 is not applicable to the Proposed Project.

Implementation of the Proposed Project is consistent with those identified in the Final SRGO Program EIR (Section 3.10, "Hazards and Hazardous Materials," Section 3.10.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed impacts of the Proposed Project related to the creation of vector habitat that would pose a significant public health hazard.

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3.11 Hydrology and Water Quality

3.11.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to hydrology and water quality. The environmental setting and the evaluation of impacts on hydrology and water quality are based on a review of existing, publicly available literature and data, along with relevant reports prepared for the Proposed Project such as the Alternatives Evaluation Study (Environmental Science Associates 2023), the Hydrology, Hydraulics, and Geomorphology Report (Environmental Science Associates 2024a), the Groundwater Elevation Analysis (Environmental Science Associates 2024b), and the draft *Sunset Weir and Pumps Fish Passage Project Pump Station Basis of Design Report* (Stantec Consulting Services 2025).

Several comments addressing hydrology and water quality were received in response to the Notice of Preparation (NOP), including letters from the Central Valley Regional Water Quality Control Board (RWQCB) and the Central Valley Flood Protection Board (CVFPB). Comment letters requested that the Draft SEIR evaluate potential risks to public safety, including increased flood risks. Comment letters also requested that the Draft SEIR evaluate potential changes to the water quality of surface waters and groundwaters of the State within the Proposed Project site. These comments were considered during preparation of this Draft SEIR. See **Appendix A** for NOP comment letters.

3.11.2 Environmental Setting

This section describes the physical environment related to surface water and groundwater hydrology, water quality, and flooding in the vicinity of the Proposed Project site; this area includes the waterbodies that could be affected by implementation of the Proposed Project, including the Feather River.

Sutter and Yuba counties are located in the Sacramento Valley in the northern portion of the relatively flat Central Valley. The counties are made up of three general physiographic regions: the Sacramento River Basin, the foothills, and the Sierra Nevada. The climate in Sutter and Yuba counties is generally characterized by hot, dry summers, with relatively moderate, wet winters, similar to Mediterranean climates; in Yuba County, temperatures decrease moving east toward the Sierra Nevada, which sharply increases in elevation. Precipitation rates are greatest during late fall to early spring followed by the dry season from later spring to early fall. The mean annual precipitation ranges from 16 to 23 inches in Sutter County and from 18 to 23 inches in Yuba County's Sacramento Valley region (Sutter County 2011; Yuba County 2011a).

Sutter and Yuba counties are within the Sacramento River Basin, which is dominated by agriculture and urbanized areas. In total, the Sacramento River Basin encompasses approximately 27,000 square miles of the Sacramento Valley. The basin includes the Sacramento River and all of its associated tributaries. The Sacramento River Basin is predominantly drained by the Feather, Yuba, and Bear rivers, which flow into the Sacramento River and ultimately to San Francisco Bay (National Oceanic and Atmospheric Administration 2025). Additional surface water sources in the basin typically consist of streams,

reservoirs, and human-made waterways, such as canals. In early summer, the melting snowpack in the Sierra Nevada and the operation of numerous reservoirs greatly affect instream flows in the Sacramento River and surrounding basins. By late summer, most small creeks and streams are generally dry and rivers are at their lowest levels. Some small creeks have water during the dry season due to agricultural irrigation and drainage and/or from drainage in upstream urban areas (Sutter County 2008; Yuba County 2011a).

Surface Water Hydrology

The Feather River flows from its headwaters in the Sierra Nevada to its confluence with the Sacramento River. The Feather River consists of the Upper Feather River watershed, which is made up of the three northeastern branches of the river system—the North Fork, Middle Fork, and South Fork—and their associated tributaries. These three forks converge at Oroville Dam, a 3.5 million-acre-foot on-river reservoir. The dam provides flood protection to downstream communities, and Lake Oroville serves as a source of recreation and serves municipal and agricultural uses. Oroville Dam also affects the volume, velocity, and timing of flows, greatly affecting the hydrology and hydraulics of the Feather River downstream. The Lower Feather River watershed extends from Oroville Dam to the confluence with the Sacramento River (Sacramento River Watershed Program 2025). Downstream of Oroville Dam, water is further diverted from the Feather River into the Thermalito Forebay, which flows into the Thermalito Afterbay and then converges with the Feather River downstream of the city of Oroville. The forebay and afterbay act as additional water storage in the area. The confluence of the Feather and Sacramento rivers is approximately 32 miles south of the Proposed Project site.

The Feather River drains into an area approximately 5,500 square miles at its confluence with the Bear River and 3,611 square miles above Oroville Dam in Butte and Plumas counties. Between Oroville and Marysville, the Feather River drains an area of 369 square miles. The terrain generally consists of steep slopes in the Sierra Nevada headwaters region, where the river has higher velocities and a more linear route. The Feather River transitions into the foothill region, where the terrain consists of rolling hillsides, and eventually into the Sacramento Valley, where the terrain is relatively flat or gently rolling and the river has slower velocities and a more meandering route (Yuba County 2011a). The Feather River forms a major portion of the border of Sutter and Yuba counties and provides beneficial uses for recreation, agriculture, and wildlife.

The area of the Proposed Project site is located on the Feather River, upstream of the confluence with its largest tributaries (the Yuba River and the Bear River). Hydrology in the area of the Proposed Project site is largely controlled by releases from Lake Oroville. As part of the Federal Energy Regulatory Commission relicensing process for Oroville Dam, the National Marine Fisheries Service developed instream flow requirements for the Feather River (National Marine Fisheries Service 2016) tied primarily to maintaining water temperatures appropriate for anadromous fish. Minimum instream flows are based on annual runoff: if April–July runoff conditions are above normal, the minimum flow is 1,700 cubic feet per second (cfs) for October–March and 1,000 cfs for April–September; if runoff conditions are below normal, the minimum flow is 1,200 cfs for October–February and 1,000 cfs for March–September. Annually, mean daily flows on the Feather River generally range between 1,000 and 10,000 cfs (Environmental Science Associates 2024c).

DWR regulates outflows from the Thermalito Afterbay into the Butte Water District Main Canal system in coordination with the Joint Water Districts Board, which is composed of Sutter Extension Water

District (SEWD), Butte Water District, Richvale Irrigation District, and Biggs-West Gridley Water District. The canal system primarily serves agricultural users. However, SEWD also supplies water yearly to Sutter National Wildlife Refuge lands that are within the district's boundaries and has occasionally helped to wheel supplemental water to the Sutter National Wildlife Refuge in the Sutter Bypass (outside district boundaries), although more recently this has been completed through a diversion through Reclamation District 1004 off the Sacramento River.

The Main Canal conveys 111,000 acre-feet and approximately 133,200 acre-feet of water annually from the Thermalito Afterbay to SEWD and Butte Water District, respectively, under the terms of a 1969 water rights settlement agreement with DWR and allocated through a 1970 Joint Operating Agreement. The 1969 agreement also allows SEWD to divert up to 65,000 acre-feet annually at the Sunset Pump Station (with an associated maximum diversion rate of 234 cfs). Separately, SEWD holds an appropriative water right (License 9063 Application 10529), for which SEWD acquired an "alternate point of diversion" (Permit Order 6242) in 1975 from the State Water Resources Control Board that allows water based on License 9063 to be diverted from the Thermalito Afterbay via the Main Canal. The Main Canal system is unlined and approximately 30,000 acre-feet of water is lost via seepage annually, with greater seepage likely occurring in the north part of the system. The seepage contributes to groundwater recharge and additional streamflow, as portions of the Main Canal are adjacent to or near the Feather River (Environmental Science Associates 2024c).

The existing Sunset Weir and Pumps are operated by SEWD and feature a fish screen that is owned and operated by the California Department of Fish and Wildlife. The weir and pumps were originally constructed in the 1920s and later modernized in 1961. The Sunset Pump Station consists of three pumps: the North Pump (350 horsepower), the Middle Pump (500 horsepower), and the South Pump (200 horsepower). SEWD primarily relies on the North Pump and South Pump, which each require at least 4 feet of submergence for optimal performance; the Middle Pump is used less often.

During times of peak irrigation demand in SEWD, the existing capacity of the Main Canal upstream of the Sunset Pumps limits SEWD's ability to meet all in-district irrigation needs solely via water turned out of the Thermalito Afterbay into the Main Canal. To address this constraint, SEWD uses the Sunset Pumps to add water to the Main Canal (which has sufficient capacity downstream of the pumps) at times when the upstream supply in the canal (decreased by upstream deliveries) is insufficient to meet demand downstream of the Sunset Pumps. This occurs primarily at the beginning of the growing season when rice farmers are flooding their fields (typically between mid-April and mid-May, the peak canal use period). The Main Canal's operating season extends to the middle or end of January, at which time the canal is drained for annual maintenance before being refilled in March or April (Environmental Science Associates 2024c).

The Sunset Weir is a 10-foot-tall boulder weir originally constructed in the 1920s on the Feather River approximately 2 miles southeast of Live Oak. The weir functions as an artificial grade control structure and influences the water surface elevation for about 6 miles upstream, just beyond the confluence with Honcut Creek (the Sunset Weir is at approximately U.S. Geological Survey River Mile 38.5). At low flows, the weir creates an elevated, flat water surface profile that extends upstream (a backwater), while at higher flows, this effect is progressively dampened and eventually eliminated as the water surface elevation and slope increase. The hydraulic influences of the weir creates scour holes along the bed and

along the east bank of the river in the area immediately abutting the downstream side of the weir, and impedes the passage of migratory native fish species, as discussed in Chapter 2, "Project Description."

Groundwater Hydrology

The Proposed Project site is located along the eastern boundary of the Sutter Subbasin (DWR Basin 5-021.62), which composes part of the greater Sacramento Valley Groundwater Basin (U.S. Army Corps of Engineers 2013). The Feather River acts as the boundary between the Sutter Subbasin and the North and South Yuba subbasins to the east (Sutter Subbasin Groundwater Management Coordination Committee 2022; Yuba County Water Agency 2024). Surface water is a major source of groundwater recharge to the groundwater subbasin. Other sources of groundwater recharge are percolation of rainfall, agricultural irrigation, and subsurface inflow from adjacent groundwater basins. Pumping of groundwater and subsurface outflow to rivers and adjoining subbasins result in a groundwater discharge (Sutter County 2011; Yuba County 2011a).

Historical mine tailing deposits and historical-to-Holocene stream channel and floodplain deposits that make up the soils surrounding the Feather River are highly permeable and allow for large volumes of groundwater recharge (U.S. Army Corps of Engineers 2013). DWR's groundwater data (California Department of Water Resources 2025) indicate that regional groundwater typically flows from north to south within the area of the Proposed Project site (U.S. Army Corps of Engineers 2013). The well level data also show relatively stable groundwater elevations within the last 40–60 years, although there is a typical seasonal fluctuation in groundwater elevation with peaks in the winter to spring months that decrease in the summer and fall months. The winter and spring peaks indicate groundwater recharge during the precipitation season, and the summer and fall drops indicate the lack of rainfall and extraction of groundwater for domestic and irrigation uses. The DWR water data library (California Department of Water Resources 2025) indicates that groundwater levels in the region vary between 3 and 30 feet below ground surface.

Because of this groundwater–surface water interaction, the Feather River acts as a regulating reservoir in the subbasins, feeding water into the subbasins as groundwater levels are lowered through natural fluctuations or groundwater pumping and drawing water from the subbasins as groundwater levels rise (Sutter Subbasin Groundwater Management Coordination Committee 2022). On average, the Feather River gains 3,000 acre-feet per year from groundwater between Oroville Dam and Honcut Creek, 13,000 acre-feet per year between Honcut Creek and the Yuba River, and 2,000 acre-feet per year between the Yuba River and the Bear River just north of its confluence with the Sacramento River (Yuba County Water Agency 2024).

Within the vicinity of Sunset Weir, there exist highly permeable floodplain deposits with presumably some degree of localized groundwater–surface water interaction between the Feather River and the regional aquifer. In particular, seasonal groundwater recharge driven by increased streamflow during winter and spring runoff is likely, although the magnitude of these processes is not known. In addition to discharge-driven recharge, there is likely a localized groundwater mound associated with the impoundment of flow behind the Sunset Weir. Additionally, the difference between the water table elevations upstream of the weir and below the weir almost certainly yields a head gradient that drives groundwater–surface water exchange, both vertically through the streambed underneath the weir and laterally through banks and around the weir (Environmental Science Associates 2024b).

Although there are no studies that have specifically evaluated local groundwater dynamics near the Sunset Weir, pore-pressure dissipation measurements from cone penetration tests conducted as a component of the Sutter Basin Feasibility Study (U.S. Army Corps of Engineers 2013) provide a snapshot of local groundwater table elevation. Analysis of the cone penetration test data indicates that groundwater elevations in the vicinity of the Proposed Project site during June 2007 ranged from 57 to 63 feet (15 to 19 feet below ground surface) (Environmental Science Associates 2024a).

The Sutter Subbasin was designed as a medium-priority subbasin by DWR. Under the Sustainable Groundwater Management Act (SGMA), such basins must be managed under a groundwater sustainability plan (GSP) or a coordinated GSP. The Sutter Subbasin is overseen by the Sutter Subbasin Groundwater Management Coordinating Committee, which published the Sutter Subbasin GSP in January 2022. The GSP presented an analysis of depth to groundwater and gaining and losing reaches in the Feather River (Sutter Subbasin Groundwater Management Coordination Committee 2022). The relationship between average depth to groundwater and the average gaining or losing status of the Feather River was estimated; the results indicated that the Feather River in the Proposed Project area is connected to the underlying aquifer. Although, on average, a given reach may be gaining or losing, that status will vary with stream discharge and water table elevation. The key finding for this analysis is that that the Feather River and the regional aquifer are connected and interact. Hence, although site-specific analyses for the Sunset Weir vicinity are not available, the findings of the GSP indicate that because of the groundwater–surface water connection, the weir likely influences the local water table and plays a role in local groundwater processes.

Water Quality

Water quality within the Proposed Project site is directly influenced by the Feather River and indirectly affected by land and water management activities performed on site, and by activities occurring on adjacent and upstream properties.

Surface Water Quality

In the vicinity of the Proposed Project site, constituents found in urban runoff vary as a result of differences in rainfall intensity and occurrence, geographic features, the land use of a site, vehicle traffic, and percentage of impervious surface. The natural weather pattern in the Sacramento Valley region is a long dry period from May to October. During this seasonal dry period, pollutants contributed by vehicle exhaust, vehicle and tire wear, crankcase drippings, spills, and atmospheric fallout accumulate in the urban watershed. Precipitation during the early portion of the flood season (November 1 to April 15) washes these pollutants into the stormwater runoff, which can result in elevated pollutant concentrations in the initial wet-weather runoff (Sutter County 2008).

The Sacramento Valley region is also dominated by agriculture. Farmers in the area use fertilizers and herbicides and pesticides during the growing season to control a variety of plant diseases and pests. The use of these compounds causes residual concentrations of fertilizers, herbicides, and pesticides to enter stormwater runoff or irrigation return water ditches. The State Water Resources Control Board (State Water Board) has identified agricultural runoff as a major factor affecting water quality in local drainages and the Sacramento, Feather, and Bear rivers (Sutter County 2008). Water quality in the Feather River is listed in the State Water Board's total maximum daily load (TMDL) program for Group A pesticides, mercury, polychlorinated biphenyls, and unknown toxicity. Further, Honcut Creek, located approximately

3.3 miles upstream of the Proposed Project site, is also listed for dissolved oxygen and indicator bacteria (State Water Resources Control Board 2024).

In addition to urban stormwater and agricultural runoff, two municipal wastewater treatment plants in Sutter County discharge to local channels and rivers that are located in the cities of Live Oak and Yuba City. In Yuba County, discharge systems are operated by Yuba County, the Cities of Marysville and Wheatland, Reclamation District 784, Beale Air Force Base, Linda County Water District, and Olivehurst Public Utilities District. Sutter and Yuba counties are both covered by a Phase 2 permit of the National Pollutant Discharge Elimination System (NPDES) regulations. These regulations are intended to reduce the pollutants discharged to surface waterbodies.

Common surface water contaminants in the vicinity of the Proposed Project site consist of total suspended solids; dissolved and total organic carbon; nutrients such as ammonia, nitrate, phosphorus, and ortho-phosphate; and metals such as arsenic, cadmium, chromium, copper, lead, nickel, and zinc. In Sutter County, surface water contaminants include arsenic, boron, salinity, nitrate, iron, and manganese; there are also problems with salinity, as well as point-source contamination such as petroleum hydrocarbons, solvents, and emerging contaminants (Sutter Subbasin Groundwater Management Coordination Committee 2022; Yuba County 2011a).

In accordance with Section 303(d) of the Clean Water Act (CWA), the RWQCBs periodically review water quality conditions and determine whether the conditions are impairing the beneficial uses of each waterbody (see Section 3.11.3, “Regulatory Setting,” for more details). The Feather River was listed as a 303(d) impaired waterbody in 2024 for aluminum. The Feather River from the Thermalito Afterbay to the confluence of the Sacramento River was found to display high levels of dissolved oxygen and turbidity, constituting an impairment to beneficial uses of cold freshwater habitat and municipal and domestic supply. The Feather River was delisted for dissolved oxygen, indicating that levels of dissolved oxygen were suitable to meet standards required by all beneficial uses in the river (Central Valley Regional Water Quality Control Board 2024).

Groundwater Quality

The Sutter Subbasin GSP identifies several constituents within the Sutter Subbasin that are at levels that exceed the maximum containment levels for drinking water. These constituents include arsenic, boron, total dissolved solids, and nitrate (Sutter Subbasin Groundwater Management Coordination Committee 2022).

The Yuba Subbasin GSP identifies naturally occurring arsenic, iron, and manganese in some areas of the county that may exceed maximum contaminant levels, as well as growing levels of salt and nutrients from agricultural and urban land uses (Yuba County Water Agency 2024).

Flooding

Flooding is a concern in the vicinity of the Proposed Project site; Sutter and Yuba counties are susceptible to several types of floods including levee failure/overtopping, localized flooding, riverine (slow-rise) flooding, and inundation from dam failure. As mentioned previously, Oroville Dam provides flood protection for downstream communities, and the Proposed Project site is within the Dam Failure Inundation Zone for Oroville Dam. The Proposed Project site is located within Federal Emergency Management Agency Flood Zone A, a 100-year floodplain (Sutter County 2011; Yuba County 2011a).

The Sunset Weir and Pumps are located within the primary conveyance corridor for floodwaters originating from the Feather River and its tributaries within and north of the Project area (e.g., Honcut Creek). This reach of the Feather River is bounded on the east and west by the levees of the Sacramento River Flood Control Project, which protect life and property in Sutter and Yuba counties. The levees are subject to Urban Levee Evaluations and provide a standard of 200-year flood protection. Once flows in the river begin to exceed approximately 60,000 cfs, the banks of the main channel overtop and floodwaters spread and are conveyed through the broad overbank areas between the east and west levees of the Sacramento River Flood Control Project. During these conditions, the Sunset Weir is submerged and exerts little overall influence on the hydraulics of the floodway (Environmental Science Associates 2024c).

3.11.3 Regulatory Setting

Federal and State regulations discussed in Section 3.11.3, "Regulatory Setting," of Section 3.11, "Hydrology and Water Quality," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO Program EIR. The relevance to the Proposed Project of each federal and State regulation and regional or local goal and policy are indicated.

Federal

U.S. Army Corps of Engineers–Related Laws and Regulations

This discussion presents an overview of the U.S. Army Corps of Engineers' (USACE's) regulatory responsibilities that apply to navigable waters and construction within the ordinary high-water mark or other waters of the United States. In addition, USACE constructs flood control and risk management projects, monitors operations and maintenance work for those projects, and provides emergency response to floods. The USACE regulations are relevant to the Proposed Project based on the location of the Proposed Project site (i.e., within the Feather River) and the evaluation of potential effects of implementation of the Proposed Project on surface hydraulics and hydrology.

Flood Control Act of 1917

The Flood Control Act of 1917 was enacted in response to costly floods that occurred in the Sacramento Valley and elsewhere in the United States between 1907 and 1913. The law authorized the formation of the federal/State Sacramento River Flood Control Project, which includes various levees, weirs, control structures, bypass channels, and river channels in the Sacramento–San Joaquin Delta and its watershed. The 1917 law was modified and extended by the Flood Control Acts of 1928, 1936, and 1941.

Flood Control Act of 1936

The Flood Control Act of 1936 established a nationwide policy that flood control on navigable waters or their tributaries is in the interest of the general public welfare, and therefore is a proper activity of the federal government, acting in cooperation with State and local entities. The Flood Control Act of 1936, its amendments, and subsequent legislation specify the details of federal participation. Projects are authorized either specifically through legislation by Congress or through a blanket funding authority for small projects.

Operations and Maintenance of Flood Control Projects

Routine operations and maintenance activities for federal project levee structures and facilities are discussed in Code of Federal Regulations (CFR) Title 33, Section 208.10 (33 CFR Section 208.10). According to these regulations (33 CFR Section 208.10[5]):

> *No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any feature of the works without prior determination by the District Engineer of the Department of the Army or his authorized representative that such improvement, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities.*

This regulation is the basis for requiring a permit before any construction at federal project levees. Types of alterations and modifications typically covered by a Section 408 permit include bridges, pump houses, stairs, pipelines, bike trails, and power poles. Major modifications or improvements to levees and flood control facilities (e.g., the Sunset Weir) require approval through a Section 408 Permission.

U.S. Environmental Protection Agency–Related Laws and Regulations

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act or CWA, established the institutional structure for U.S. Environmental Protection Agency (EPA) to regulate discharges of pollutants into the waters of the United States, establish water quality standards, conduct planning studies, and provide funding for specific grant projects. Congress has amended the CWA several times since 1972. EPA has delegated to most states the authority to administer many provisions of the CWA. In California, the State Water Board has been designated by EPA to develop and enforce water quality objectives and implementation plans.

Section 303

CWA Section 303 requires states to adopt water quality standards for all surface waters of the United States. The three major components of water quality standards are designated users, water quality criteria, and antidegradation policy. In 1992, EPA established the National Toxics Rule to provide ambient water quality criteria for priority toxic pollutants to protect aquatic life and human health in accordance with CWA Section 303.

Section 303(d) of the CWA requires states and authorized Native American Tribes to develop a list of water quality–impaired segments of waterways. The list includes waters that do not meet the water quality standards necessary to support the beneficial uses of a waterway, even after point sources of pollution have installed the minimum required levels of pollution control technology. The list includes only waters impaired by "pollutants" (clean sediments, nutrients such as nitrogen and phosphorus, pathogens, acids/ bases, temperature, metals, cyanide, and synthetic organic chemicals [U.S. Environmental Protection Agency 2025a]); it does not include those impaired by other types of "pollution" (e.g., altered flow, channel modification).

CWA Section 303(d) also requires states to maintain a list of impaired waterbodies so that a TMDL can be established. A TMDL is a plan to restore the beneficial uses of a stream, or to otherwise correct impairment. It establishes the allowable pollutant loadings or other quantifiable parameters (e.g., pH,

temperature) for a waterbody, thereby providing the basis for establishing water quality–based controls. The calculation for establishing TMDLs for each waterbody must include a margin of safety to ensure that the waterbody can be used for the purposes designated by the state. The calculation also must account for seasonal variations in water quality (U.S. Environmental Protection Agency 2025a).

Water quality criteria are designed to protect beneficial uses. Ambient surface water quality may be judged against national and state water quality criteria and specific numeric objectives. See the discussion of water quality control plans below for details regarding water quality criteria and numeric objectives.

Section 401

In California, Section 401 water quality certification is the responsibility of the State Water Board, which certifies that an activity is consistent with State-issued water quality control plans, called "basin plans." Section 401 requires federal agencies to obtain certification from the State or Native American Tribes before issuing permits that would increase pollutant loads to a waterbody. The certification is issued only if such increased loads would not cause or contribute to exceedances of water quality standards.

Section 402

CWA Section 402 established the NPDES permit program to regulate point-source and nonpoint-source discharges of pollutants into waters of the United States. (See 40 CFR Part 122.) An NPDES permit sets specific limits for discharges of pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. The RWQCBs typically issue NPDES permits for a 5-year period. The NPDES permits are issued for long-term discharges, including discharges from wastewater treatment plants, and temporary discharges, such as discharges during construction activities. The State Water Board has adopted a Statewide Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit) (Order 2009-0009-DWQ) for construction sites where 1 or more acres of soil would be disturbed. The Construction General Permit requires, among other actions, the implementation of best management practices (BMPs), including pollution/sediment/spill control plans, training, sampling, and monitoring for non-visible pollutants.

Section 404

CWA Section 404 establishes programs to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Under Section 404, any person or public agency proposing to locate a structure, excavate, or discharge dredged or fill material into waters of the United States, or to transport dredged material for the purpose of dumping it into ocean waters, must obtain a permit from USACE. The extent of waters of the United States is defined in 33 CFR Section 230.3(s) and clarified in USACE Regulatory Guidance Letters. The Section 404(b)(1) Guidelines provide environmental criteria and other guidance used in evaluating proposed discharges of dredged materials into waters of the United States.

Rivers and Harbors Act of 1899

The Secretary of the Army, on the recommendation of the Chief of Engineers, may grant permission for the temporary occupation or use of any seawall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States (United States Code Title 33, Part 408, and Section 14 of the Rivers and Harbors Act of 1899). This permission is granted by an appropriate real estate instrument in accordance with existing regulations. This regulation requires parties other than USACE that seek to modify federal

project levees to obtain a permit. Types of alterations that typically require a Section 408 permit are major modifications such as degradations, raisings, and realignments of levees, and installation of structures that span levees, such as bridges.

Sections 9 and 10 of the Rivers and Harbors Act authorize USACE to regulate the construction of any structure or work within navigable waters. The Rivers and Harbors Act also authorizes USACE to regulate the construction of infrastructure or modifications affecting the course, location, condition, or capacity of navigable waters. USACE's jurisdiction under the Rivers and Harbors Act is limited to "navigable waters," or waters subject to the ebb and flow of the tide shoreward to the mean high-water mark that may be used to transport interstate or foreign commerce. USACE must consider the following criteria when evaluating projects within navigable waters:

- The public and private need for the activity.
- Reasonable alternative locations and methods.
- Beneficial and detrimental effects on the public and private uses to which the area is suited.

Federal Antidegradation Policy

In 1975, EPA included the antidegradation requirements in the Water Quality Standards Regulation (40 CFR Section 130.17, 40 CFR Sections 55340–55341). The requirements were included in the 1987 CWA amendment in Section 303(d)(4)(B).

National Toxics Rule

EPA established the National Toxics Rule in 1992 to provide ambient water quality criteria for priority toxic pollutants to protect aquatic life and human health in accordance with CWA Section 303.

State

Central Valley Flood Protection Board

The CVFPB was created in 1911 to help manage flood risks in the Central Valley on a systemwide basis by developing a comprehensive flood control plan for the Sacramento and San Joaquin rivers, and to act as the non-federal sponsor for federal flood control projects in the Central Valley. The CVFPB has jurisdiction throughout the Sacramento and San Joaquin valleys, which is synonymous with the drainage basins of the Central Valley and includes the Sacramento–San Joaquin Drainage District.

An encroachment permit from the CVFPB is required for every proposal or plan of work that:

(1) Is located between or in the vicinity of any project levees.

(2) Is located within a CVFPB easement.

(3) Is located within a designated floodway that has been adopted by the CVFPB.

(4) Is located within 30 feet of a non-leveed regulated stream listed in California Code of Regulations Title 23, Division 1, Article 8, Table 8.1.

(5) May have a negative effect on any adopted plan of flood control.

California Code of Regulations Title 23 and the California Water Code provide guidance to DWR and the CVFPB on enforcing appropriate standards for flood control projects in the Central Valley. These codes authorize DWR and the CVFPB to enforce standards for erecting, maintaining, and operating levees, channels, and other flood control works within their jurisdictions.

California Safe Drinking Water Act

The California Safe Drinking Water Act (Health and Safety Code Sections 4010 through 4039.6) authorizes the California Department of Public Health to establish maximum contaminant levels that are at least as stringent as those required by EPA under the federal Safe Drinking Water Act. The California Department of Public Health has established maximum contaminant levels for contaminants that may occur in public water systems, including all substances for which federal maximum contaminant levels exist, and that may have adverse health effects. Operators of public water systems in California must meet federal and State drinking water standards.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) established the State Water Board and divided the state into nine regions, each overseen by an RWQCB (see California Water Code Section 13000 et seq.) The nine RWQCBs have primary responsibility for the coordination and control of water quality within their respective jurisdictional boundaries. Under the Porter-Cologne Act, "water quality objectives" are limits or levels of water quality constituents or characteristics established for the protection of beneficial uses.

The Porter-Cologne Act requires the RWQCBs to establish water quality objectives while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Designated beneficial uses, together with the corresponding water quality objectives, and an antidegradation policy also constitute water quality standards under the federal CWA. The water quality objectives provide requirements for water quality control.

If USACE determines that only non-federal waters are present in the restoration project area, then no federal CWA permit is required. Regardless of federal jurisdiction, however, the project requires a permit, or "waste discharge requirements," for impacts on any waters of the State. The waste discharge requirements are issued by the appropriate RWQCB or, for statewide or multi-regional projects, by the State Water Board. Under the Porter-Cologne Act, discharges to all waters of the State, including all wetlands and other waters of the State (including but not limited to isolated wetlands), are subject to State regulations.

A discharger whose project would disturb 1 or more acres of soil, or would disturb less than 1 acre but is part of a larger common plan of development that in total would disturb 1 acre or more, must obtain coverage under the Construction General Permit, Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, and disturbances to the ground such as stockpiling or excavation; however, it does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP).

Water Quality Control Plans

Under the Porter-Cologne Act, waters of the State fall under the jurisdiction of the State Water Board and the nine RWQCBs. "Waters of the State" means any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code Section 13050[e]). The federal government has delegated to the State Water Board and RWQCBs the authority to implement the requirements of the federal CWA in California, including issuing NPDES permits, under the Porter-Cologne Act. However, the requirements of the Porter-Cologne Act are even broader than those of the CWA. The Porter-Cologne Act requires the RWQCBs to prepare and periodically update water quality control plans, also known as "basin plans." Each basin plan establishes water quality objectives sufficient to ensure that the designated beneficial uses of surface water and groundwater are reasonably protected, and actions to control nonpoint and point sources of pollution.

Any person who discharges or proposes to discharge any waste that could affect the quality of the waters of the State must file a "report of waste discharge" with the appropriate RWQCB. "Waste" includes any and all waste substances associated with human habitation, of human or animal origin, or from any producing, manufacturing, or processing operation (Water Code Section 13050[d]). Upon receipt of a report of waste discharge, the RWQCB may issue "waste discharge requirements" designed to ensure compliance with applicable water quality objectives and other requirements of the basin plan.

A public review process is conducted every 3 years to identify and prioritize the actions needed to address water quality concerns and maintain the effectiveness of the basin plan. Amendments to basin plans may include site-specific water quality objectives for a single constituent, basin-wide control programs for a suite of potential pollutants, and/or policy recommendations and strategies for addressing emerging contaminants and/or climate change.

Sacramento and San Joaquin River Basin Water Quality Control Plan

The primary water quality control plan for the area of the Proposed Project site is *The Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region: the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan) (Central Valley Regional Water Quality Control Board 2019). As outlined in the Basin Plan, water quality control consists primarily of protecting and maintaining water quality standards. The standards consist of (a) designated beneficial uses of water, (b) water quality objectives, and (c) the State's anti-degradation policy.

In addition to identifying and establishing water quality standards, the Basin Plan outlines implementation, regulatory (permit), and enforcement programs. Water quality objectives have been established by the Central Valley RWQCB to protect the designated beneficial uses established in the Basin Plan. These protective limits are achieved primarily through the combined, collective issuance of individual water quality permits (and certifications) for significant human-caused sources of pollution. Permits may contain specific numeric limits (i.e., effluent limitations) on pollutant quantities to be discharged or may regulate other (e.g., construction) activities to ensure that, collectively and with the benefit of dilution, water quality objectives would be achieved. Surface waterbodies in the Sacramento Valley are currently listed as impaired in multiple pollutant categories. CWA Section 303(d) requires the development of TMDLs for impaired waterbodies (State Water Resources Control Board 2024).

State Water Resources Control Board Statement of Policy with Respect to Maintaining High Quality of Waters in California

In 1968, the State Water Board adopted a policy (Resolution No. 68-16) that is frequently referred to as the "Anti-degradation Policy." This policy states that if water quality is better than the State Water Board's adopted water quality requirements, the higher water quality shall be maintained until it is demonstrated that the change in water quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than prescribed in adopted policies.

The policy also states that any activity that discharges or proposes to discharge waste to waters with higher water quality than specified in adopted policies must implement best practicable treatment or must provide that a pollution or nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

In July 1990, the State Water Board issued an administrative procedures update to the RWQCBs, describing procedures for findings that would allow degradation of water quality if balanced against the benefit to the public of the activity that caused the water quality degradation. The administrative procedures update stated that the findings should identify the pollutants that will lower water quality, the socioeconomic and public benefit of the action, and the beneficial uses affected.

Water Quality Criteria for Toxics

The *Policy for Implementing Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* is referred to as the "State Implementation Policy." This State policy for water quality control was adopted by the State Water Board on March 2, 2000, and became effective by May 22, 2000. The policy applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the State Porter-Cologne Act (Division 7 of the Water Code) and the federal CWA. Such regulation may occur through the issuance of NPDES permits or other relevant regulatory approaches. This policy establishes the following:

- Provisions for implementing the criteria for priority pollutants promulgated by EPA in the National Toxics Rule (40 CFR Section 131.36; December 22, 1992, amended May 4, 1995) and in the California Toxics Rule (40 CFR Section 131.38; May 18, 2000, amended February 13, 2001), and for implementing the priority pollutant objectives established by the RWQCBs in their basin plans.
- Monitoring requirements for 2,3,7,8-tetrachlorodibenzo-p-dioxin (known as "TCDD" or "dioxin") equivalents.
- Chronic toxicity control provisions.

In addition, the policy includes special provisions for certain types of discharges and factors that could affect the application of other provisions in the policy.

The California Toxics Rule is applicable to all State waters, as are EPA's advisory National Recommended Water Quality Criteria.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was enacted in September 2014 (see California Water Code Section 10720 et seq.). This law established a new structure for locally managing California's groundwater in addition to the existing groundwater management provisions established by Assembly Bill (AB) 3030 (1992), Senate Bill (SB) 1938 (2002), and AB 359 (2011), as well as SBX7 6 (2009). The SGMA includes the following key elements:

- Provides for the establishment of a groundwater sustainability agency (GSA) by one or more local agencies overlying a designated groundwater basin or subbasin identified in DWR Bulletin 118-03.
- Requires all DWR Bulletin 118 groundwater basins found to be of "high" or "medium" priorities to prepare groundwater sustainability plans, or GSPs.
- Provides for the proposed revisions, by local agencies, to the boundaries of a DWR Bulletin 118 basin, including the establishment of new subbasins.
- Authorizes DWR to adopt regulations for the development of GSPs and review the GSPs for compliance every 5 years.
- Requires DWR to establish BMPs and technical measures for GSAs to develop and implement GSPs.
- Provides regulatory authority to the State Water Board for developing and implementing interim GSPs under certain circumstances (such as lack of compliance with development of GSPs by GSAs).

The SGMA defines "sustainable groundwater management" as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." "Undesirable results" are defined as any of the following effects:

- Chronic lowering of groundwater levels.
- Significant and unreasonable reduction of groundwater storage.
- Significant and unreasonable seawater intrusion.
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
- Significant and unreasonable land subsidence that substantially interferes with surface land uses.
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Based on the basin priority definitions included in DWR's California Statewide Groundwater Elevation Monitoring program in June 2014 and confirmed in January 2015, the SGMA required that GSPs be formed by 2020 or 2022. GSPs were required by 2020 for medium- and high-priority basins identified as subject to critical overdraft conditions. GSPs for all other high- and medium-priority basins were to be completed by 2022. Sustainable groundwater operations must be achieved within 20 years after completion of the GSPs.

Regional and Local

Sutter County General Plan

The following goals and policies in the Sutter County General Plan are applicable to the Proposed Project:

Goal ER-6: Preserve and protect the County's surface water and groundwater resources.

Policy ER-6.2: Surface Water Resources. Protect the surface water resources in the County including the Sacramento, Feather and Bear Rivers and their significant tributaries.

Policy ER-6.3: Groundwater Sustainability. Protect the sustainability of groundwater resources.

Policy ER-6.6: Groundwater Protection. Regulate stormwater collection and conveyance, as necessary, to protect groundwater supplies from contamination.

Policy ER-6.10: Stormwater Quality. Control pollutant sources from construction and operational activities, and improve stormwater runoff quality, through the use of stormwater protection measures in accordance with County, state, and federal regulations.

Goal PHS-1: Minimize the potential for loss of life, personal injury, and property damage associated with floods.

Policy PHS-1.3: Minimum Standard of Flood Protection. Require a minimum of 100-year flood protection for development, in accordance with local, state, and federal requirements to avoid or minimize the risk of flood damage.

Policy PHS-1.11: Central Valley Flood Protection Board Collaboration. Require projects that are located within the jurisdictional area regulated by the Central Valley Flood Protection Board to consult with, and obtain applicable permits from, the Board.

Yuba County General Plan

The following goals and policies in the Yuba County General Plan are relevant to the Proposed Project:

Goal HS-1: Flood Protection. Reduce flood risk for the County's people and property.

Policy HS-1.6: The County will prohibit construction near levees that would adversely affect the integrity of the subject levee or would impede maintenance, inspection, or planned levee expansion.

Policy HS-1.11: Natural waterways should be protected from unnecessary alteration whenever flood protection structures or other forms of construction are proposed.

Goal HS-1: Water Quality. Preserve, protect, and improve the quality of regional water supplies.

Policy HS-3.14: The County will encourage the preservation, creation, or restoration of riparian corridors, wetlands, open space buffers, and other types of open space that provide water quality benefits.

The Yuba County General Plan's Natural Resources Element provides information and policy guidance intended to guide the extraction and use of natural resources, ensure the conservation of natural resources,

and guide the restoration of natural resources in Yuba County (Yuba County 2011b). The following goal and policy related to hydrology and water quality are relevant to the Proposed Project:

> **Goal NR-12: Water Supply**. Reduce water consumption and ensure reliable water supply in normal years and during time of drought.
>
> > ***Policy NR-12.4:*** The County will encourage the use of recycled water and water from irrigation districts that is not treated to urban standards for outdoor irrigation, toilet flushing, fire hydrants; commercial and industrial processes, carwashes, concrete batching, laundromats; dust control; parks, gold courses, and other landscaped areas, and other appropriate water-intensive uses.

3.11.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to hydrology and water quality is considered significant if the Proposed Project would do any of the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- 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:
  - Result in substantial on- or off-site erosion or siltation.
  - Substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding.
  - 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.
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Issues Not Analyzed Further in this SEIR

Risk release of pollutants due to project inundation because of being located in a tsunami or seiche zone.

Because of the Proposed Project site's inland location and the lack of large, closed waterbodies, the Proposed Project is not located in a seiche or tsunami zone. Therefore, ***no impact*** would occur and the potential release of pollutants during inundation caused by a tsunami or seiche is not evaluated further in this Draft SEIR. Potential impacts of the Proposed Project related to the risk of release of pollutants due to project inundation in a flood hazard zone are discussed in Impact 3.11-3.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts of the Proposed Project on water quality (Impact 3.11-1), groundwater hydrology (Impact 3.11-2), and surface water hydrology (Impact 3.11-3), The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance activities (long-term, permanent). Hydraulic modeling (Environmental Science Associates 2024a), described in Section 3.2.1, is referenced in support of the impact analysis.

Impacts and Mitigation Measures

Table 3.11-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.11-1
SUMMARY OF IMPACT CONCLUSIONS—HYDROLOGY AND WATER QUALITY

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.11-1: Implementation of the Proposed Project could result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.	LTSG	LTSG
3.11-2: Implementation of the Proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan.	LTSG	LTS
3.11-3: Implementation of the Proposed Project could substantially alter the existing drainage pattern of a 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 that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.	LTSG	LTS

Notes: LTS = less than significant; LTSG = less than significant with implementation of general protection measures
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.11-1: Implementation of the Proposed Project could result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan. (Final SRGO Program EIR Impact 3.11-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for construction activities for restoration projects to result in a release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.

Related to the Proposed Project, the Final SRGO Program EIR evaluated the installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; removal of legacy structures; and the installation of cofferdams during construction. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials.

The analysis in the Final SRGO Program EIR assumed that project proponents would comply with applicable federal, State, and local regulations and ordinances (e.g., regulations of the State Water Board and the RWQCBs, which are the NPDES permitting authorities in California). However, because of the potential for adverse impacts on water quality as a result of construction, the Final SRGO Program EIR indicated that impacts would be potentially significant. (See Final SRGO Program EIR Section 3.11.4.)

To reduce construction impacts on surface water and groundwater quality, the Final SRGO Program EIR included the following general protection measures when applicable to a given project: GPM-10 through GPM-12, WQHM-1 through WQHM-6, IWW-1 through IWW-4, IWW-6, IWW-10 through IWW-13, VHDR-2 through VHDR-4, and VHDR-6 through VHDR-8. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also and Final SRGO Program EIR Section 3.11.4.)

Construction activities, equipment, and materials used for the Proposed Project would be consistent with those analyzed in the Final SRGO Program EIR. Construction of the Proposed Project would require site preparation and mobilization/demobilization; use of staging areas, access routes, and haul routes; vegetation clearing; earthmoving involving excavation and grading; and dewatering. Construction of the Sunset Pump Station replacement and upgrade would involve replacing the existing pump, motor units, and discharge piping, and constructing a new wet well and pump support structure and installing new fish screens. Various types of construction equipment would be used to prepare the Proposed Project site, and construct and finalize the Proposed Project (see Table 2-4 of Chapter 2, "Project Description," for a list of proposed construction equipment). Construction materials and equipment would be stored in and distributed from temporary staging areas depicted in Figures 2-4 and 2-5.

Construction activities could introduce pollutants into surface water or groundwater through the use of equipment (e.g., oils, lubricants, hydraulic fluids), earth disturbance (e.g., soil and sediment), and use of materials (e.g., concrete). For example, clearing, excavation, and grading for the left bank stabilization element could expose and release contaminated sediments, resulting in water quality impacts on receiving waters. The Proposed Project site lies within a flood hazard zone, but construction activities would not occur during the flood season. Therefore, inundation of the construction area and/or staging areas that would result in a release of these pollutants is unlikely.

Should any hazardous materials be discharged to the land surface or surface waters during construction, they could also travel to shallow groundwater. If the discharge volume were large enough, the hazardous materials could degrade local groundwater quality to a sufficient degree to impair its continued use. (Section 3.10, "Hazards and Hazardous Materials," includes more information regarding hazardous materials.) Dewatering operations may expose elevated levels of suspended sediment, turbidity, or other constituents (e.g., metals, construction materials) that could degrade water quality when discharged into surface waters. Additionally, grading and excavation during Proposed Project construction could disturb sediments and mobilize heavy metals and other contaminants. Although the time to construct the Proposed Project's restoration elements would be short-term (up to three construction seasons), temporary construction could result in effects on water quality that could persist throughout the construction period.

Consistent with the Final SRGO Program EIR, the Proposed Project would comply with applicable federal and State regulations to reduce potential construction impacts on water quality. As described in Section 3.10.3, "Regulatory Setting," the federal Clean Water Act prohibits any stormwater discharge from a construction project unless the discharge occurs in compliance with an NPDES permit. Because construction would disturb more than 1 acre of soil, DWR and the construction contractor would be required to obtain and comply with the Construction General Permit (Order 2022-0057-DWQ) from the Central Valley RWQCB before initiating earth-disturbing activities to ensure that construction activities would not degrade surface water and groundwater quality. Requirements of the Construction General

Permit include developing a SWPPP and implementing BMPs that would (1) prevent increases in water turbidity, (2) control surface erosion, (3) control stormwater flows, (4) retain sediment within the construction site, and (5) restore vegetation. Conditions of the permit would include:

- Preparation of a hazardous material spill control and countermeasure program.
- Stormwater quality sampling, monitoring, and compliance reporting.
- Development and adherence to a rain event action plan.
- Mandatory training under a specific curriculum.
- Mandatory implementation of BMPs.

BMPs could include but would not be limited to (1) conducting major construction activities involving excavation and spoils haulage during the dry season, to the extent possible; (2) using straw bales, sandbags, gravel traps, and filters; (3) implementing erosion control measures such as vegetation and physical stabilization; and (4) incorporating sediment control measures such as fences, dams, barriers, berms, traps, and basins. The specific BMPs and water quality constituent–specific monitoring (e.g., for turbidity) to be implemented would be determined before issuance of the Construction General Permit, as determined by the Central Valley RWQCB.

As mentioned previously, dewatering would also occur during weir removal and bank stabilization (see Chapter 2, "Project Description") to facilitate construction. Water from dewatering would be filtered and piped to existing canals to be used for irrigation water. With implementation of the SWPPP, water discharged from the work area would meet water quality thresholds established by the Central Valley RWQCB. As part of this process, the Proposed Project would obtain and comply with a General Waste Discharge Requirements/NPDES Permit for Limited Threat Discharges to Surface Waters for the testing and disposal of groundwater or other water dewatered during construction.

With adherence to the NPDES regulations, construction of the Proposed Project would not result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan. Additionally, the Proposed Project would implement the following general protection measures included in the Final SRGO Program EIR to reduce construction impacts: GPM-10 through GPM-12, WQHM-1 through WQHM-6, IWW-1 through IWW-4, IWW-6, IWW-10 through IWW-13, VHDR-2 through VHDR-4, and VHDR-6 through VHDR-8. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Therefore, this impact would be ***less than significant with implementation of general protection measures***.

The effects of the Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project on surface water and groundwater quality.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for constructed facilities and the operations and maintenance of such facilities to result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.

The Final SRGO Program EIR evaluated constructed facilities, including natural infrastructure such as floodplain habitat, tidal wetland habitat, and riparian habitat, as well as artificial infrastructure such as culverts, fish screens, and other water control structures that improve water management capabilities. Operation and maintenance for these facilities includes removing sediment within or near the facilities, removing vegetation, and inspecting and maintaining facilities and natural features. The Final SRGO Program EIR determined that the long-term effects on water quality of constructed facilities from restoration projects permitted under the SRGO would be beneficial or neutral (in the case of fish screens). The specific purpose of these projects would be to correct existing conditions that contribute to resource degradation and/or counteract risks associated with environmental factors that contribute to water quality degradation.

As described in the Final SRGO Program EIR, the establishment, restoration, and enhancement of tidal wetland habitats would provide numerous ecological benefits, including water quality improvements. Floodplain restoration would also improve water quality because floodplains, when inundated with water, act as natural filters by removing excess sediment and nutrients. However, depending on the size, location, and types of constructed facilities, there could be substantial changes to existing water quality conditions such as turbidity, salinity, water temperature, or cyanobacterial harmful algal blooms. The Final SRGO Program EIR stated that because the potential exists for adverse impacts on water quality as a result of constructed facilities and operation and maintenance, impacts would be potentially significant. Routine operation and maintenance activities would be similar to those described for construction; however, the level of activity would be less intense during the operation and maintenance phase than during construction, so the degree of temporary changes to water quality would be much less. The Final SRGO Program EIR stated that the general protection measures listed above for construction activities would reduce impacts from constructed facilities on water quality to a less-than-significant level. (See Final SRGO Program EIR: Section 3.11.4.)

The Proposed Project's constructed facilities and operations and maintenance activities would be consistent with the constructed facilities analyzed in the Final SRGO Program EIR. As described in Chapter 2, "Project Description," the Proposed Project would restore the Feather River to more natural riverine morphology, improving fish passage and bank stabilization. As discussed below in Impact 3.11-3, the changes in streamflow in the Feather River (as discussed below in Impact 3.11-3) may affect sedimentation or other water quality issues (e.g., dissolved oxygen, water temperature), and in turn could affect other water quality constituents that are influenced by these constituents or changing hydrologic conditions. Modeling results for hydrodynamics and water quality constituents support the conclusion that the Proposed Project would result in negligible changes in sedimentation levels across the Proposed Project site. Therefore, the constructed facilities would not result in a release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.

As described in Section 2.4.7, "Operation and Maintenance," of Chapter 2, "Project Description," operation and maintenance of the Proposed Project would also include the removal of sediment and debris that may accumulate near the pump station and fish screens. Maintenance activities could release sediments into the aquatic portions of the Proposed Project site.

The Final SRGO Program EIR identified the following general protection that are applicable to the Proposed Project: GPM-10 through GPM-12, WQHM-1 through WQHM-6, IWW-1 through IWW-4, IWW-6, IWW-10 through IWW-13, VHDR-2 through VHDR-4, and VHDR-6 through VHDR-8. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Implementation of these measures would reduce potential impacts from constructed facilities and operations and maintenance activities on water quality. Therefore, this impact would be ***less than significant with implementation of general protection measures***.

The effects of the Proposed Project's constructed facilities and operations and maintenance activities would be consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the effects of the constructed facilities and operations and maintenance on water quality.

Impact 3.11-2: Implementation of the Proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Proposed Project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan. (Final SRGO Program EIR Impact 3.11-2.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for construction activities for restoration projects to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the restoration project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan.

Related to the Proposed Project, the Final SRGO Program EIR evaluated the following construction activities: installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; removal of legacy structures; and the installation of cofferdams during construction. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials. (See Final SRGO Program EIR Section 3.11.4.)

The Final SRGO Program EIR determined that these activities could reduce groundwater levels and alter groundwater recharge and therefore could obstruct implementation of a sustainable groundwater management plan. However, as explained in the Final SRGO Program EIR, any reductions or alterations would be localized and temporary; preconstruction conditions would be expected to resume, or to be improved upon, after construction. Therefore, the Final SRGO Program EIR determined this impact to be less than significant. (See Final SRGO Program EIR Section 3.11.4.) To further reduce impacts, the Final

SRGO Program EIR included General Protection Measure IWW-6 when applicable to a given project. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles.)

As discussed in Impact 3.11-1, construction activities for the Proposed Project would be consistent with those analyzed in the Final SRGO Program EIR. Construction of the Proposed Project would require temporary dewatering to prepare for earthwork, remove the Sunset Weir, replace and upgrade the Sunset Pump Station, stabilize the left bank, and restore the Feather River channel. Dewatering would be conducted according to permitting requirements, and water discharged would be routed to existing canals for use as irrigation water.

Construction work could include compaction of soil or other activities that would temporarily increase impervious land surfaces. Other construction methods, such as vegetation clearing, land grading/leveling, or temporary placement of excavated earthen or dredged materials, could alter drainage patterns during construction, which could result in changes to groundwater recharge. However, these reductions would be localized and temporary, and preconstruction conditions would be expected to resume, or to be improved upon, after construction.

Consistent with the Final SRGO Program EIR, the localized and temporary nature of the groundwater changes associated with construction of the Proposed Project is not anticipated to substantially deplete groundwater supplies or to interfere substantially with groundwater recharge such that the restoration project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan. To further reduce impacts, the Proposed Project would include implementation of General Protection Measure IWW-6, included in the Final SRGO Program EIR (see Appendix B). Therefore, this impact would be ***less than significant with implementation of general protection measures***.

The effects of the Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project on groundwater supplies and groundwater recharge.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for constructed facilities (natural and artificial infrastructure) to substantially deplete groundwater supplies or to interfere substantially with groundwater recharge such that the restoration project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan.

The Final SRGO Program EIR evaluated constructed facilities, including natural infrastructure such as floodplain habitat, tidal wetland habitat, and riparian habitat, as well as artificial infrastructure such as culverts, fish screens, and other water control structures that improve water management capabilities. The Final SRGO Program EIR determined that the long-term effects of restoration projects permitted under the SRGO would be beneficial (or neutral) because restoration projects typically improve groundwater

recharge. Given the size of impervious land surfaces, any alterations of or interference with groundwater recharge would likely be negligible. The Final SRGO Program EIR evaluated operations, monitoring, and maintenance activities necessary to support the successful establishment of natural conditions and support the functionality of artificial/constructed infrastructure. Therefore, the Final SRGO Program EIR found that these elements or activities would not reduce groundwater supplies, impair groundwater recharge, or obstruct implementation of a sustainable groundwater management plan, and determined this impact to be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See Final SRGO Program EIR Section 3.11.4.)

The constructed facilities would not require the use of groundwater; therefore, they would not substantially deplete groundwater supplies. Currently, a groundwater mound is present at the Sunset Weir, extending approximately 5 miles upstream of the weir and 1 mile to the east and west of the Feather River channel. Therefore, removal of the Sunset Weir would have the potential to result in the lowering of groundwater elevation.

A project-specific analysis was conducted to analyze the effects of the Proposed Project on groundwater elevations (Environmental Science Associates 2024b). Results were presented for a single set of simulated conditions, which represent a dry-year, summer low-flow scenario when a water table drawdown would be expected to have the most effect on water well production. The potential effect of weir removal would likely be negligible during the fall and winter wet season when river flow is typically higher. The modeling results indicate that with removal of the Sunset Weir, the groundwater mound dissipated and lowered the water table in the vicinity of the weir. The maximum upstream extent of the water table reduction of at least 0.5 foot was approximately 3 miles upstream of the Sunset Weir, and the maximum lateral extent was a little more than 1 mile on each side of the river. The maximum reduction in the water table elevation was 8 feet at the weir. The effect of water table lowering on wells in the study area was modeled to be either nonexistent or no worse than current conditions.

Although the Proposed Project would result in a lowering of the groundwater elevation, comparisons with modeled and historic data indicate that wells in the area of the Proposed Project site that are able to operate as normal during dry years under baseline conditions would continue to do so under Project conditions. Therefore, the effect of lower groundwater wells in the area of the Proposed Project site would be consistent with baseline conditions, and the Proposed Project would not significantly interfere with groundwater resources in the area of the Proposed Project site.

Additionally, the Proposed Project would not introduce large amounts of impervious surfaces that would result in a decrease in or interference with groundwater recharge as compared to baseline conditions. Operation and maintenance of the Proposed Project would be consistent with baseline conditions. These activities would not require groundwater pumping, nor would these activities result in the significant introduction of impervious surfaces that would have the potential to interfere with groundwater recharge. Because the Proposed Project would not use groundwater supplies or significantly interfere with groundwater supplies by lowering the groundwater table or reducing groundwater recharge, impacts would be ***less than significant***.

Consistent with the Final SRGO Program EIR, the constructed facilities and operations and maintenance of such elements would not be anticipated to deplete groundwater resources, interfere with groundwater

recharge, or obstruct implementation of a sustainable groundwater management plan. The effects of the Proposed Project's constructed facilities and operation and maintenance of such elements are consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the effects of the constructed restoration elements and operation and maintenance of such elements on groundwater supplies and groundwater recharge.

Impact 3.11-3: Implementation of the Proposed Project could substantially alter the existing drainage pattern of a 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 that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. (Final SRGO Program EIR Impact 3.11-3.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for construction activities for restoration projects to temporarily alter drainage patterns, thus increasing the rate and amount of surface runoff in a manner that would exceed the capacity of existing or planned stormwater drainage systems, result in flooding, or impede or redirect flood flows.

Related to the Proposed Project, the Final SRGO Program EIR evaluated the following construction activities: installation of infrastructure such as culverts, fish screens, and other water control structures to improve water management capabilities; water infrastructure modifications; removal of water structures; and the installation of cofferdams during construction. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials. (See Final SRGO Program EIR Section 3.11.4.)

The Final SRGO Program EIR found that these activities could temporarily alter existing drainage patterns. The Final SRGO Program EIR determined that a construction-related change in the amount or rate of surface runoff would likely only have relatively localized effects on site and immediately downstream, or downslope, of the site. However, these changes would not be expected to change surface runoff in a manner that could exceed existing or planned stormwater drainage systems and/or create or increase on- or off-site flooding. Because any changes would have relatively localized effects on site and immediately downstream (or downslope) of the site and would be temporary, the types of restoration projects permitted under the SRGO would not increase the rate or amount of surface runoff in a manner that would increase the risk of flooding on or off site. Therefore, the Final SRGO Program EIR determined this impact to be less than significant. (See Final SRGO Program EIR Section 3.11.4.)

To further reduce the impact of construction activities changing the rate or amount of surface runoff in a manner which would increase the risk of flooding on or off site, the Final SRGO Program EIR included the following general protection measures when applicable to a given project: WQHM-1 and WQHM-2.

(See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Final SRGO Program EIR Section 3.11.4.)

Weir removal under the Proposed Project would involve excavating and removing the existing rock (approximately 12,500 cubic yards, or 55,500 square feet [410 linear feet]) down to the approximate natural channel bed elevation. Pump station replacement and upgrade activities would include replacing the pumps and replacing or slip-lining associated piping, constructing a new wet-well pump support structure, and installing contemporary fish screens that meet current criteria. Excavation for the new wet well and fish screens would be approximately 20 feet deep.

Additionally, work for the left bank stabilization component would require earthwork to flatten the eroding bank to a 3 horizontal to 1 vertical slope and protect the bank from further erosion. The toe and lower portion of the vegetated rock slope protection would be stabilized with rock slope protection up to the ordinary high-water mark, with longitudinal peak stone toe protection, and with willow pole baffles planted perpendicular to the flow. A new gravel construction access road would be constructed along the top of bank.

Various types of construction equipment would be used for the Proposed Project (see Table 2-4 in Chapter 2, "Project Description," for a list of anticipated construction equipment). Construction equipment would require the use of oils, lubricants, and hydraulic fluids, which are potential pollutants. Construction materials and equipment would be stored in and distributed from temporary staging areas located within the Proposed Project site.

The following subsections evaluate the potential for construction activities to alter existing drainage patterns through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.

Result in On- or Off-Site Erosion and Siltation

The Proposed Project would alter the existing drainage system through removal of the Sunset Weir, replacement and upgrade of the Sunset Pump Station, and stabilization of the left bank. Construction activities for the Proposed Project, including vegetation clearing and grubbing, could temporarily expose soils to increased rates of erosion and increase sediment loading to receiving waters. Such activities could also release sediment to receiving waters during soil disturbance on the Proposed Project site.

Implementation of General Protection Measures WQHM-1 and WQHM-2 would further reduce the temporary impacts of construction activities. Additional general protection measures implemented to address potential construction impacts on water quality described in Impact 3.11-1 would apply and include WQHM-3, IWW-11, and VHDR-4. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.)

As discussed in Impact 3.11-1, because construction would disturb more than 1 acre of soil, DWR and the project contractor would be required to obtain the Construction General Permit (Order 2022-0057-DWQ) from the Central Valley RWQCB and comply with the permit before initiating earth-disturbing activities.

Requirements of the Construction General Permit include developing a SWPPP and implementing BMPs that would (1) prevent increases in water turbidity, (2) control surface erosion, (3) control stormwater flows, (4) retain sediment within the construction site, and (5) restore vegetation. Implementation of such measures would minimize on- or off-site erosion and siltation. Additionally, siltation control measures such as floating turbidity curtains may be implemented to prevent turbidity and siltation during construction.

With implementation of these general protection measures, and required coverage under the Construction General Permit, temporary construction activities would not alter the existing drainage patterns in a manner which would result in substantial on- or off-site erosion and siltation compared to baseline conditions.

Increase the Rate or Amount of Surface Runoff

Construction activities would involve staging and stockpiling of cleared vegetation and demolished infrastructure that could pose physical barriers to surface runoff, resulting in short-term ponding of water and/or the redirection of surface runoff on and adjacent to a construction site. Although major construction activities would typically be implemented during the dry season (May–October), some construction activities might be required during the flood season (November–April). During a rain event, construction activities could temporarily alter the direction, rate, and amount of surface runoff within the Proposed Project site. In addition, grading for construction activities could temporarily alter the slope of the land across which drainage flows.

Although drainage patterns and the amount and rate of surface runoff could be altered as a result of construction activities during a rain event, these changes would be temporary and no major construction activities are proposed during the flood season. Additionally, implementation of General Protection Measures WQHM-1 through WQHM-3, and VHDR-4 would reduce potential impacts. Therefore, the Proposed Project is not anticipated to result in substantial increases in the rate or amount of surface runoff in a manner that could create or increase on- or off-site flooding.

Create or Contribute Runoff Water

As described in Section 3.10.2, “Environmental Setting,” the area around the Proposed Project site receives and routes drainage from the neighboring urban and agricultural development. In addition to urban stormwater and agricultural runoff, two municipal wastewater treatment plants in Sutter County discharge to local channels and rivers that are located in the cities of Live Oak and Yuba City. Runoff rates vary throughout the season, depending on precipitation events and seasonality. Therefore, the Proposed Project site is accustomed to varying rates and amounts of surface runoff.

During the construction period, flows would be partially controlled by timing the removal and notching the weir in stages, as described in Chapter 2, “Project Description”; no rerouting of river flows is proposed. To further reduce the potential impact of project construction on the rate or amount of surface runoff in a manner that would increase the risk of flooding on or off site, the Final SRGO Program EIR included General Protection Measures WQHM-1 and WQHM-2, which require the development of a SWPPP and specific design requirements for all staging areas and stockpiling of materials and equipment.

The use of hazardous materials during construction (e.g., for equipment) would be temporary—occurring over up to three construction seasons—and they would be properly stored in and distributed from designated staging areas. Therefore, compared to baseline conditions, temporary changes in drainage

patterns caused by the Proposed Project's construction activities would not create or contribute to runoff that would exceed the capacity of the existing stormwater drainage system or provide substantial additional sources of polluted runoff.

Impede or Redirect Flood Flows

As described previously, construction activities could temporarily alter the existing drainage patterns of the Proposed Project site during a rain event through stockpiling of materials, excavation, and grading. However, all in-water components of the Proposed Project would be expected to occur outside of the flood season. Therefore, compared to baseline conditions, temporary construction activities for the Proposed Project would not alter drainage patterns in a manner which would substantially impede or redirect flood flows.

Impact Conclusion

In summary, construction-related changes in the Proposed Project site's drainage patterns would be temporary and localized. Compared to baseline conditions, the construction-related changes would not result in substantial on- or off-site erosion and siltation; substantial increases in the rate or amount of surface runoff which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of the stormwater drainage system or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Consistent with the Final SRGO Program EIR, implementation of General Protection Measures WQHM-1 and WQHM-2 would further reduce the temporary impacts of construction activities. Additional general protection measures implemented to address potential construction impacts on water quality (also described in Impact 3.11-3) would apply and include WQHM-3, IWW-11, and VHDR-4 (see Appendix B). With implementation of these general protection measures, the construction-related changes would not result in substantial on- or off-site erosion and siltation; substantial increases in the rate or amount of surface runoff which would result in on or off-site flooding; create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Therefore, this impact would be ***less than significant with implementation of general protection measures***.

The effects of the Proposed Project's construction activities are consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed construction impacts of the Proposed Project on existing drainage patterns.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO. These impacts include the potential for constructed facilities (natural and artificial infrastructure) to increase the rate and amount of surface runoff in a manner that would exceed the capacity of existing or planned stormwater drainage systems, result in flooding, or impede or redirect flood flows. The Final SRGO Program EIR evaluated constructed facilities including natural infrastructure such as improved fish passage, and riparian habitat, as well as artificial infrastructure such as culverts, fish screens, and other water control structures that improve water management capabilities.

The Final SRGO Program EIR determined that although the constructed facilities could permanently alter existing drainage patterns, many of the long-term effects of the restoration projects permitted under the SRGO on drainage patterns and flood flows would be beneficial or neutral. The specific purpose of these projects would be to correct existing conditions that contribute to resource degradation, such as groundwater overdraft and poor water quality and flood management. Projects would likely have relatively localized effects on site and immediately downstream of the floodplain restoration improvements and would not increase surface water elevations or the chance of flooding in adjacent floodplains. Therefore, the Final SRGO Program EIR determined that the impacts of constructed facilities and the operation and maintenance of such facilities on existing drainage patterns would be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See Final SRGO Program EIR: Section 3.11.4.)

As described in Chapter 2, "Project Description," the Proposed Project's elements would alter the existing drainage patterns through removal of the Sunset Weir, restoration of the Feather River's natural channel, improvements to existing facilities, and restoration and stabilization of the left bank. Specifically, removal of the Sunset Weir would eliminate the upstream backwater and water surface drop through the weir, restoring more natural flow patterns and hydraulic properties in the Feather River. Although weir removal would result in hydraulic changes to the river, implementation of the Proposed Project would improve stabilization of the left bank and would not materially change the stability of the Feather River's banks compared to baseline conditions.

Bank retreat patterns in the absence of the Sunset Weir are expected to be of a similar magnitude to current bank retreat processes, and any potential for increased bank instability is considered negligible, especially with regard to retreat associated with large flood events. Bank modeling indicates that the Proposed Project would not have a material effect on bank erosion (Environmental Science Associates 2024a). Concurrently with weir removal and river restoration, the Sunset Pumps would be replaced and upgraded such that they could operate under the lowered riverine hydraulic conditions to continue to meet existing water supply obligations.

The Proposed Project would not directly or indirectly change land uses in the area of the Proposed Project site that could change the existing floodplain roughness or significantly increase the amount of impervious surfaces in the area of the Proposed Project site.

The following subsections evaluate the potential for the constructed facilities to alter existing drainage patterns in a manner that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.

Result in On- or Off-Site Erosion or Siltation

Grading activities for the left bank stabilization and channel restoration and the removal of Sunset Weir would permanently alter the slope of the land across which drainage flows, which could change the direction, rate, and amount of surface runoff post-construction. As described under "Methodology and Assumptions," hydraulic modeling was conducted to quantify changes in flow and the effects of the Proposed Project on the physical and biological conditions of the Feather River. As modeled, sediment

transport is predicted to initially increase after weir removal due to loss of the associated backwater; however, this change would diminish over time, and modeling results indicate that post-implementation sediment transport would be consistent with natural physical processes (Environmental Science Associates 2024a). Additionally, the Proposed Project's bank stabilization component would protect the banks on the Proposed Project site from erosion through the installation of vegetated rock slope up to the ordinary high-water mark, longitudinal peak stone toe protection, and willow pole baffles perpendicular to the flow.

Additionally, operations and maintenance of the Proposed Project are not expected to contribute to additional on- or off-site siltation. As discussed previously, the Proposed Project is not expected to significantly change sedimentation dynamics in the area of the Proposed Project site. Therefore, maintenance is expected to remain similar to baseline conditions. As with baseline conditions, maintenance actions may involve the periodic removal of excess accumulated sediment, vegetation, or other debris around the fish screens to ensure that the system operates at its design capacity and that fish passage hydraulic criteria are being achieved. Therefore, compared to baseline conditions, the Proposed Project's constructed facilities would not alter the existing drainage patterns in a manner which would result in substantial on- or off-site erosion and siltation.

Increase the Rate or Amount of Surface Runoff or Impede or Redirect Flood Flows

As described under "Methodology and Assumptions," hydraulic modeling was conducted to quantify changes in flow and the effects of the Proposed Project on the physical and biological conditions of the Feather River. The existing weir, due to its elevation and orientation to the river flow, creates a large hydraulic drop at most flows and steers flow toward the banks. Removing the weir would create an overall smoother hydraulic transition from upstream to downstream at this location, which would ultimately reduce erosion and scour at the removed weir site. Additionally, flood risk would be reduced under the Proposed Project for the 100- and 200-year events, where flood stages would be reduced by up to 0.3 foot (Environmental Science Associates 2024a).

Table 3.11-2 summarizes key Feather River flows and water surface elevation at the Sunset Pump Station site (see Chapter 2, Figure 2-3).

The Proposed Project would not be expected to change the stability of the riverbanks as compared to baseline conditions, especially in regard to retreat associated with large flood events. The Proposed Project also would not increase the rate or amount of surface runoff, as impervious surfaces are expected to remain relatively the same as under baseline conditions. Therefore, impacts related to surface runoff or the impediment or redirection of flood flows would be less than significant.

As discussed previously, constructed facilities and operations and maintenance activities would be consistent with baseline conditions and would not significantly alter the area of the Proposed Project site in such a way that they would increase the rate or amount of surface runoff, or impede or redirect flows.

TABLE 3.11-2
FEATHER RIVER FLOWS AND WATER SURFACE ELEVATION AT THE SUNSET PUMP STATION SITE WITH THE PROPOSED PROJECT

Feather River Flow Description	Flow (cubic feet per second)	Water Surface Elevation (feet, NAVD88) at pump station
Minimum River Flow	390	43.5* 42.0**
Low Fish Flow***	900	44.8
Median Fish Flow***	2,130	46.3
Median Flow 50% Exceedance Flow during April to September Irrigation Season	3,360	47.6
High Fish Flow***	30,500	63.0
2-Year Flow Ordinary High-Water Mark	57,300	68.6
10-Year Flow	106,300	76.1
100-Year Flow	161,400	81.0
200-Year Flow	168,600	82.0

Notes: NAVD88 = North American Vertical Datum of 1988

* Water surface elevation with existing downstream gravel bar in river remaining.
** Water surface elevation with existing gravel bar evacuated over time.
*** Fish flow.

Source: Stantec Consulting Services 2025: Table 3.

Create or Contribute Runoff Water

The long-term effects of the Proposed Project's constructed facilities on existing drainage patterns are anticipated to be beneficial or neutral compared to baseline conditions. The long-term operation of the Proposed Project would not add significant amounts of impervious surfaces that would create or contribute runoff water compared to baseline conditions. Additionally, no pollutants are associated with the constructed facilities. Therefore, the Proposed Project's constructed facilities would not create or contribute runoff water that would exceed the capacity of the existing drainage system.

Impact Conclusion

The long-term effects of the Proposed Project's constructed facilities on existing drainage patterns are anticipated to be neutral or beneficial compared to baseline conditions. Similarly, operations and maintenance of the Proposed Project would be consistent with baseline conditions. In summary, the hydraulic analysis demonstrates that the Proposed Project would result in no adverse impacts on flood stages in the system. Importantly, as discussed in Chapter 2, "Project Description," hydraulic changes associated with the Proposed Project would restore the Feather River channel to a natural grade, allowing for more natural riverine morphology, restoring natural fish passage conditions (Environmental Science Associates 2024a).

Although localized changes in flow are expected, a lower water surface elevation associated with the area of the Proposed Project site would correlate with reduced flood risks and minimal changes in channel erosion and scour (Environmental Science Associates 2024a).

Consistent with the Final SRGO Program EIR, the constructed facilities and the operation and maintenance of such features would not alter the existing drainage patterns in a manner that would result in substantial on- or off-site erosion and siltation; result in a substantial increase in the rate or amount of surface runoff which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of the stormwater drainage system or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Therefore, this impact would be ***less than significant***.

The effects of the Proposed Project's constructed facilities and the operation and maintenance of such elements are consistent with those identified in the Final SRGO Program EIR (Section 3.11, "Hydrology and Water Quality," Section 3.11.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the effects of the constructed facilities and operation and maintenance on existing drainage patterns.

3.12 Recreation

3.12.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to recreation. The environmental setting and the evaluation of impacts on recreation are based on a review of existing, publicly available literature and data.

Comments related to recreation in response to the Notice of Preparation (NOP) were received from two members of the public. See **Appendix A** for the NOP comment letters. These comments were considered during preparation of this Draft SEIR.

3.12.2 Environmental Setting

This section describes existing recreational resources and areas with recreational opportunities in the Feather River region and within the Proposed Project site. There are no designated public recreational facilities such as parks, playgrounds, trails, or sports fields within the Proposed Project site, and Sutter Extension Water District (SEWD) land on the Proposed Project site is closed to the public.

The Feather River and its adjacent levees provide multiple recreational facilities and opportunities. Water-based recreation activities include boating, fishing, kayaking, canoeing, floating, tubing, and swimming. Land-based activities include bicycling, walking, hiking, hunting, bird-watching, wildlife viewing, photography, and picnicking. Access to the Feather River is provided by State wildlife areas, local parks, and a wildlife sanctuary. The Feather River Wildlife Area, managed by the California Department of Fish and Wildlife, is located approximately 2 miles from the Sunset Weir. Many parts of the Feather River shoreline, especially north of Yuba City and Marysville, are inaccessible to recreationists.

Boating is a common activity along the Feather River. Motorized boat use—fishing, use of personal watercraft, and cruising along the river—is especially popular. Boat ramps are distributed approximately every 7 miles along the Feather River between Thermalito Afterbay and the Sutter Bypass. Fishing is another popular recreation activity throughout portions of the corridor. Anglers fish from boats and the shore throughout the reaches of the river.

The closest designated public access point to the Sunset Weir and Pump Station is the Live Oak Recreational Boat Launch, approximately 1.75 miles upstream of the weir.

Live Oak Recreational Boat Launch

The Live Oak Recreational Boat Launch is managed by Sutter County. Amenities at the facility include a campground, RV park, and boat ramp, which allow for camping and boating in addition to swimming, picnicking, and day use. The Live Oak Recreational Boat Launch is located at the terminus of Pennington Road on the west bank of the Feather River (City of Live Oak 2025).

Feather River Wildlife Area

The Feather River Wildlife Area comprises eight separate wildlife area management units. Five wildlife area units are located on the west side of the Feather River in Sutter County, totaling 1,724 acres; from north to south, these are the Morse Road Unit, Shanghai Bend Unit, Abbott Lake Unit, O'Connor Lakes Unit, and Nelson Slough Unit. Three units that together total 1,180 acres—from north to south, the Marysville Unit, Star Bend Unit, and Lake of the Woods Unit—are located on the east side of the Feather River in Yuba County. The closest unit of the Feather River Wildlife Area to the Proposed Project site is the Morse Road Unit, approximately 2 miles from the site (California Department of Water Resources 2014).

The Feather River Wildlife Area is accessible by vehicular travel, boating, biking, and walking from public roads or trails. Hunting, fishing, trapping, bird-watching, hiking, nature study, picnicking, and boating are allowed in the wildlife area. Hunting is restricted to certain seasons for authorized species.

3.12.3 Regulatory Setting

Federal and State regulations discussed in Section 3.16.3, "Regulatory Setting," of Section 3.16, "Recreation," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO PEIR.

Federal

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972, better known as the Clean Water Act, established the institutional structure for the U.S. Environmental Protection Agency to regulate discharges of pollutants into waters of the United States, establish water quality standards, conduct planning studies, and fund grant projects. Congress has amended the Clean Water Act several times since 1972.

The U.S. Environmental Protection Agency has provided most states with the authority to administer many of the provisions of the Clean Water Act. In California, the State Water Resources Control Board (State Water Board) has been designated to develop and enforce water quality objectives and implementation plans. The State Water Board has delegated specific responsibilities for development and enforcement actions to the individual regional water quality control boards.

Section 303(d) of the Clean Water Act requires states, territories, and authorized Tribes to develop lists of water quality–impaired segments of waterways and other waterbodies under their jurisdiction. The law requires the jurisdictions to establish priority rankings for the waters they list and to develop action plans, known as "total maximum daily loads," to improve water quality.

Federal Land and Water Conservation Fund Act

The Land and Water Conservation Fund, created by Congress in 1964, provides money to federal, state, and local governments to purchase land, water, and wetlands for the benefit of all Americans. Lands and waters purchased through the Land and Water Conservation Fund do all of the following:

- Provide recreational opportunities.
- Provide clean water.
- Preserve wildlife habitat.
- Enhance scenic vistas.
- Protect archaeological and historical sites.
- Maintain the pristine nature of wilderness areas.

State

California Division of Boating and Waterways

The California Division of Boating and Waterways, part of the California Department of Parks and Recreation, has a mission to provide safe and convenient public access to California's waterways and leadership in promoting the public's right to safe, enjoyable, and environmentally sound recreational boating. The California Division of Boating and Waterways endorses boating safety and education, assists local boating law enforcement agencies, ensures uniformity in boating regulations, and licenses boat operators and brokers. The division is also responsible for reviewing, updating, and adopting State boating regulations to reflect changes in federal and State boating laws, and planning and designing State boating facilities.

Regional and Local

Sutter County General Plan

No applicable goals or policies related to recreation facilities or opportunities are outlined in the Sutter County General Plan.

Yuba County General Plan

The following goals and policies described in the Yuba County General Plan are applicable to the Proposed Project.

Goal NR1: Recreational Areas. High-quality, accessible public recreational open space.

Policy NR1.11: Recreational open space along rivers and streams should incorporate flood control objectives, habitat preservation, and habitat restoration as appropriate.

Policy NR1.16: Natural and recreational open space areas should be provided along the Feather River, the Yuba River and Gold Fields, federal- and state-owned lands, and other river channels, river corridors, and reservoirs in collaboration with relevant agencies and willing property owners.

3.12.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to recreation is considered significant if the Proposed Project would do either of the following:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

In addition, the Final SRGO Program EIR considered that a significant impact would occur if the types of projects permitted under the Order would:

- Impair, degrade, or eliminate recreational facilities and opportunities.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Board Resources Control 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers potential impacts on recreational resources from implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and constructed facilities and operations and maintenance activities (long-term, permanent).

The Proposed Project site and components were reviewed relative to the locations and types of recreational facilities within Sutter and Yuba counties and the Proposed Project site to determine whether Project-induced changes to the physical environment would be significant.

Impacts and Mitigation Measures

Table 3.12-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.12-1
SUMMARY OF IMPACT CONCLUSIONS—RECREATION

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.12-1: Implementation of the Proposed Project could directly impair, degrade, or eliminate recreational resources, facilities, and opportunities.	LTS	LTS
3.12-2: Implementation of the Proposed Project could alter recreational resources or facilities or require the construction or expansion of recreational facilities that could result in environmental impacts.	LTSG	LTSG
3.12-3: Implementation of the Proposed Project could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated.	LTS	LTS

Notes: LTS = less than significant; less than significant with implementation of general protection measures
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.12-1: Implementation of the Proposed Project could directly impair, degrade, or eliminate recreational resources, facilities, and opportunities. (Final SRGO Program EIR Impact 3.16-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential of construction activities for restoration projects to impair, degrade, or eliminate recreational resources, facilities, and opportunities. Project construction work covered by the Final SRGO Program EIR included the following: grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and mobilization/demobilization; stockpiling of construction materials; and disposal of excess materials. (See Final SRGO Program EIR Section 3.16.4.)

The Final SRGO Program EIR found that these activities could result in temporary impairment, degradation, or elimination of recreational resources, facilities, and opportunities. However, these impacts would be temporary, as the land could be returned to recreational use after construction. This impact was therefore determined to be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See Final SRGO Program EIR Section 3.16.4.)

Consistent with the types of construction activities evaluated by the Final SRGO Program EIR, construction of the Proposed Project would require the following: site preparation and mobilization/demobilization; use of staging areas, access routes, and haul routes; grading and excavation; the installation of fish screens and water control structures, such as pumps; removal and salvage and/or disposal of existing pumps,

pipes, and other water control structures; and installation of temporary cofferdams. Because the presence of the Sunset Weir generally prevents access to the full length of the Feather River from nearby public boat launch facilities in Gridley and Live Oak upstream of the weir and in Yuba City downstream of the weir, Proposed Project construction activities would not be likely to substantially affect public boating along the Feather River. Construction activities for the Proposed Project would include installing approximately 500 linear feet of sheet pile after weir removal to create a cofferdam in the Feather River that would remain in place during remaining Sunset Pump Station construction activities. Once work is complete, the cofferdam would be removed and the Feather River would continue to flow as normal.

SEWD lands within the Proposed Project site are not open to public access or recreation. Construction activities to stabilize the left bank would occur on private property and DWR would coordinate work directly with the property owner. Therefore, no impacts on public recreational areas would occur during this construction. Publicly accessible recreational resources, such as the Live Oak Recreational Park Boat Launch, would continue to be accessible and unaffected by Proposed Project construction.

The Sunset Weir already prevents access to the full length of the Feather River from nearby public boat launch facilities, construction activities would be temporary, and there are multiple public access points for recreation in the Feather River in the vicinity of the Proposed Project site. Therefore, this impact would be ***less than significant***.

Construction activities for the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.16, "Recreation," Section 3.16.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential for construction of the Proposed Project to impair, degrade, or eliminate recreational resources, facilities, and opportunities.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for constructed restoration elements and operation, monitoring, and maintenance of restoration projects to impair, degrade, or eliminate recreational resources, facilities, and opportunities. The Final SRGO Program EIR determined that infrastructure may be removed or relocated along streams and in riparian areas and could result in long-term and permanent changes to recreational resources. This impact was therefore determined to be potentially significant. (See Final SRGO Program EIR Section 3.16.4.)

As part of the State Water Board's or a regional water quality control board's issuance of a notice of applicability for a restoration project under the Order, compliance with Mitigation Measure REC-1 would be required when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.) The Final SRGO Program EIR found this impact to be less than significant with implementation of SRGO Mitigation Measure REC-1. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See Final SRGO Program EIR Section 3.16.4.)

SEWD is responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. Fish screens installed as part

of the Proposed Project would be self-cleaning; however, occasional maintenance, debris and in-water sediment removal may be required to achieve compliance with State and federal fish-protection criteria.

The Proposed Project would restore fish and boat passage in the Feather River and would not otherwise impede recreational opportunities on the Proposed Project site, and therefore may benefit public fishing opportunities in the vicinity of the Feather River in the long term. Public access to the Feather River would not change with implementation of the Proposed Project. Under baseline conditions, SEWD lands are not open to public access or recreation, and this would not change with the Proposed Project. Maintenance activities would be consistent with those evaluated under the Final SRGO Program EIR, including activities such as the following: periodic dredging of sediment; manual vegetation management (e.g., replanting, watering, mowing); and maintenance, cleaning, and/or repair of equipment and infrastructure. Recreational resources may be temporarily affected during these maintenance repairs; however, operation and maintenance activities would not remove, replace, or degrade any recreational activities or opportunities adjacent to the Proposed Project site.

Therefore, the constructed facilities and operation and maintenance activities would not directly impair, degrade, or eliminate recreational resources, facilities, and opportunities. This impact would be ***less than significant***. Because this impact would be less than significant, SRGO Mitigation Measure REC-1 is not applicable to the Proposed Project.

Constructed facilities and operation and maintenance activities associated with the Proposed Project are consistent with and would not result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR (Section 3.16, "Recreation," Section 3.16.4, "Impacts and Mitigation Measures"). The Final SRGO Program EIR adequately addressed the potential for the Proposed Project to impair, degrade, or eliminate recreational resources, facilities, and opportunities.

Impact 3.12-2: Implementation of the Proposed Project could alter recreational resources or facilities or require the construction or expansion of recreational facilities that could result in environmental impacts. (Final SRGO Program EIR Impact 3.16-2.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for construction activities, constructed restoration elements, and operation, monitoring, and maintenance for restoration projects to facilitate or require the construction or expansion of recreational facilities that could result in environmental impacts. The Final SRGO Program EIR evaluated the potential for restoration projects to result in the permanent closure or alteration of recreational use (e.g., closure of roads to recreational trails), and to require the use of other recreational facilities or restoration projects, resulting in upgraded or expanded recreation facilities (such as trails or wildlife-oriented recreation) that could result in environmental impacts. (See Final SRGO Program EIR Section 3.16.4.)

The Final SRGO Program EIR included the following general protection measures to reduce these impacts to less than significant: GPM-6, GPM-7, GPM-10 through GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, IWW-1 through IWW-3, IWW-5, IWW-6, IWW-8, IWW-13, VHDR-1 through VHDR-4, and VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for

general protection measure titles; see also Appendix B.) SRGO Mitigation Measures REC-1 and NOISE-2 were also included to reduce these impacts to less than significant. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles.)

As discussed previously, access to recreational opportunities in the Feather River channel are not anticipated to be affected by construction activities because the presence of the Sunset Weir generally prevents access to the full length of the Feather River from nearby public boat launch facilities at Gridley and Live Oak upstream of the weir and in Yuba City downstream of the weir. Flow in the Feather River would continue during Proposed Project construction and would return to unimpeded conditions with the removal of the weir.

SEWD lands are not open to the public for access or recreation, and the left bank repair area is located on private property. Therefore, construction-related impacts on recreational opportunities in the area of the Proposed Project site would be minimal, given that a majority of the site is not open for public access or recreation. To ensure minimal impacts, the above-referenced general protection measures in the Final SRGO Program EIR would apply to the Proposed Project; these include measures applicable to construction activities and operation and maintenance of the constructed facilities. SRGO Mitigation Measure REC-1 would not apply to the Proposed Project because the Proposed Project would not result in substantial impairment, degradation, or elimination of recreational facilities. SRGO Mitigation Measure NOISE-2 would not apply because there are no sensitive receptors in the vicinity of the Proposed Project site.

Public shoreline access, such as those available as part of the Feather River Wildlife Area, would be unaffected both during and after Project construction. These areas would not be affected by the Proposed Project and no change to their accessibility would occur. Other portions of the Proposed Project site, such as the Sunset Pump Station, are not open to the public for recreational activities, and therefore, the Proposed Project would not change recreational access and would not alter recreational resources or facilities or require the construction or expansion of recreational facilities.

The Proposed Project would alter recreational resources by restoring fish and boat passage in the Feather River in the vicinity of the Proposed Project site. (The associated environmental impacts of the Proposed Project are discussed throughout Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures.") The Proposed Project could offer overall benefits for recreational opportunities; however, substantial additional usage of recreational facilities in the vicinity of the Proposed Project site that could require the construction or expansion of recreational facilities is not anticipated, given that this would be a benefit for recreational opportunities along the length of the Feather River and increased use would not be concentrated in one area.

Therefore, the Proposed Project would not substantially alter recreational resources or facilities or require the construction or expansion of recreational facilities that could result in environmental impacts, nor would the Proposed Project require operations or maintenance of recreational facilities. This impact would be ***less than significant with implementation of general protection measures***.

Construction activities, constructed facilities, and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.16, "Recreation," Section 3.16.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed the potential

for construction of the Proposed Project to alter recreational resources or facilities or to require the construction or expansion of recreational facilities.

Impact 3.12-3: Implementation of the Proposed Project could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated. (Final SRGO Program EIR Impact 3.16-3.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include increasing the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated. The Final SRGO Program EIR evaluated projects that would establish, restore, or enhance stream, riparian, or tidal habitats that may permanently relocate or decommission existing recreational facilities. This displacement may increase the use of other existing recreational resources or facilities, potentially leading to substantial physical deterioration. (See Final SRGO Program EIR Section 3.16.4.)

As part of the State Water Board's or a regional water quality control board's issuance of a notice of applicability for a restoration project under the Order, compliance with SRGO Mitigation Measure REC-2 would be required when applicable to a given project. (See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for SRGO mitigation measure titles; see also Appendix B.) The Final SRGO Program EIR found this impact to be less than significant with implementation of Mitigation Measure REC-2. The Final SRGO Program EIR did include any general protection measures applicable to this impact. (See Final SRGO Program EIR Section 3.16.4.)

As discussed previously, access to recreational features in the Feather River channel are not anticipated to be affected by the Proposed Project. The presence of the Sunset Weir generally prevents access to the full length of the Feather River from nearby public boat launch facilities in Gridley and Live Oak upstream of the weir and in Yuba City downstream of the weir; completion of the Proposed Project would restore fish and boat passage in the Feather River in the vicinity of the Proposed Project site, potentially improving recreational opportunities in the Feather River. Although the use of existing recreational resources (such as for boating) may increase because passage in the Feather River would be restored, this use would be spread out over the Feather River, and it is not expected to be concentrated in one area that would significantly increase the use of existing recreational resources or facilities such that substantial physical deterioration would occur or be accelerated.

This impact would be ***less than significant***; therefore, Mitigation Measure REC-2 is not applicable to the Proposed Project.

Construction activities, constructed facilities, and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.16, "Recreation," Section 3.16.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addressed impacts of the Proposed Project related to the increased use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated.

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3.13 Tribal Cultural Resources

3.13.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to Tribal cultural resources.

The environmental setting and the evaluation of potential impacts on Tribal cultural resources, including indigenous archaeological resources, rely on the information and findings presented in the confidential cultural resources report. The cultural resources report provides an environmental, ethnographic, and historic background of the vicinity of the Proposed Project site with an emphasis on human occupation and settlement patterns. Detailed results of the cultural resources investigation can be found in the report, included as confidential **Appendix F**. Some aspects of Tribal cultural resources overlap with other environmental resources, and the analysis of Tribal cultural resources was, therefore, informed by the resource analyses contained in other chapters in this document. For example, information related to the cultural resource analysis and overlaps with Tribal cultural resource background context and methods used for the analysis of potential impacts from the Proposed Project is only presented in Section 3.8, "Cultural Resources" and is not repeated in this section.

Comments related to Tribal cultural resources were received in response to the Notice of Preparation (NOP) from the California Native American Heritage Commission (NAHC). See **Appendix A** for NOP comment letters. These comments can be summarized as follows:

- Recommendations to consult with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the Proposed Project as early as possible to avoid inadvertent discoveries of Native American human remains and best protect Tribal cultural resources.
- Requests to adequately assess the existence and significance of Tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts on Tribal cultural resources.

These comments in response to the NOP were considered during preparation of this Draft SEIR. The impact analysis in this section evaluates the effects of construction activities (short-term, temporary); the effects of constructed restoration elements (long-term, permanent); and the effects of operations, monitoring, and maintenance activities in the Proposed Project site.

For this analysis, the term "Tribal cultural resource" is defined as follows:

> *A site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that are listed, or determined to be eligible for listing, in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), or a local register of historical resources. A Tribal cultural resource may also qualify as an historical resource, pursuant to California Public Resources Code (PRC) Section 21084.1, a unique archaeological*

resource, as defined in PRC Section 21083.2, or non-unique archaeological resource, as defined in PRC Section 21083.2.

3.13.2 Environmental Setting

A summary of the pre-contact and ethnographic settings and a summary of the cultural resource identification effort are presented in Section 3.8, "Cultural Resources," of this document.

Methods of Resource Identification

DWR is committed to the identification of Tribal cultural resources as part of a good-faith Tribal consultation under CEQA and according to DWR's Tribal Engagement Policy (which incorporates by reference the California Natural Resources Agency's [CNRA] Tribal Consultation Policy) (California Department of Water Resources 2016). DWR's Tribal consultation and engagement for the Proposed Project recognizes the unique expertise and perspectives held by Tribes about resources of cultural value to Tribes, and the importance of this expertise in identifying potential Tribal cultural resources. DWR's Tribal consultation has driven the identification of Tribal cultural resources and the Tribal cultural resources impact analysis for the Proposed Project.

To identify potential Tribal cultural resources within the Proposed Project site, there was outreach to the Native American Heritage Commission (NAHC) including a search of the Sacred Lands File and a list of Tribes with traditional and cultural affiliation, Tribal consultation, and information obtained through the cultural resources investigation including a search of the California Historical Resources Information System (CHRIS), cultural resources pedestrian surveys, and subsurface surveys. A summary of findings from the cultural resources investigation is presented in Section 3.8, "Cultural Resources.

Environmental Science Associates (ESA) contacted the NAHC on June 5, 2023, to request a search of the NAHC's Sacred Lands File and a list of Native American representatives who may be traditionally and culturally affiliated with the geographic area of the Proposed Project. The NAHC's search of the Sacred Lands File yielded positive results and they provided a list of Native American representatives to ESA on June 28, 2023. DWR conducted Tribal consultation according to the requirements of PRC Section 21080.3 and consistent with California Natural Resources Agency's (CNRA) *Tribal Consultation Policy* (2012) and DWR's *Tribal Engagement Policy* (2016). During the environmental analysis for the Proposed Project, CNRA was in the process of revising the *Tribal Consultation Policy,* finalized on September 26, 2025. The contact list provided by the NAHC, DWR's AB 52 notification list, and DWR's Internal Contact list were used to guide Tribal consultation outreach on the Proposed Project. DWR sent notification letters with invitations to a pre-consultation Tribal informational meeting via certified mail to Tribes on August 7, 2023, and emails sent on August 11, 2023. The following 11 Tribes were contacted either pursuant to AB 52 (4 Tribes - as marked by an asterisk) or DWR and CNRA's policies:

- Berry Creek Rancheria of Maidu Indians
- Enterprise Rancheria of Maidu Indians of California – (Enterprise Rancheria Estom Yumeka Maidu)
- Greenville Rancheria
- KonKow Valley Band of Maidu*
- Mechoopda Indian Tribe*

- Mooretown Rancheria of Maidu Indians
- Nevada City Rancheria Nisenan
- Pakan'yani Maidu of Strawberry Valley Rancheria
- Tsi Akim Maidu
- United Auburn Indian Community of the Auburn Rancheria*
- Wilton Rancheria*

DWR hosted a pre-consultation informational meeting on September 28, 2023, to provide an overview of the project and support Tribal information sharing. DWR received requests for consultation from four Tribes: Enterprise Rancheria of Maidu Indians of California, KonKow Valley Band of Maidu, Mooretown Rancheria of Maidu Indians, and United Auburn Indian Community. DWR engaged with all Tribes who requested consultation with DWR in accordance with PRC Section 21080.3.1 or DWR and CNRA's policies. Multiple attempts were made to schedule consultation meetings with Mooretown Rancheria, but no meetings have been held to date.

DWR conducted the following consultation meetings with participating Tribes:

- KonKow Valley Band of Maidu Indians
  - June 19, 2024
- Enterprise Rancheria
  - August 8, 2024
- United Auburn Indian Community
  - June 19, 2024
  - October 1, 2024

DWR invited participating Tribes to be present for cultural resources investigations including subsurface surveys. On December 11, 2024, DWR received notification from KonKow Valley Band of Maidu Indians they defer consultation to Enterprise Rancheria but would like to continue to receive updates on the Proposed Project.

Per request of both Enterprise Rancheria and United Auburn Indian Community, three joint consultation meetings were held with both Tribes and DWR on the following dates:

- January 13, 2025
- March 27, 2025
- June 1, 2025

Additionally, informational updates have been provided by DWR via email including an opportunity for early review of the Draft SEIR prior to release for public comment to all Tribes participating in consultation. DWR will continue to offer and accommodate consultation meetings with all four Tribes, based on each Tribe's interest and availability, during development of the Draft SEIR and will continue to

do so through finalization of the SEIR. Consistent with DWR and CNRA Tribal policies, DWR will continue to coordinate with consulting Tribes on the project post-finalization of the SEIR and through project implementation.

Results

Methods of identification resulted in one Tribal cultural resource, also a cultural resource. Detailed results of the cultural resources investigation can be found in the report, included as confidential **Appendix F**. A summary of cultural resource eligibility for the National Register of Historic Properties (National Register) and California Register of Historical Resources (California Register) is presented in Section 3.8, "Cultural Resources."

Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and in the California Register under Criteria 1 and 4. Indigenous Resource P-51-000523 is therefore considered a historical resource and a unique archaeological resource for the purposes of CEQA. In addition, the results of the Tribal consultation conclude that Indigenous Resource P-51-000523 is a Tribal cultural resource for the purposes of CEQA.

3.13.3 Regulatory Setting

Federal and State regulations discussed in Section 3.18.3, "Regulatory Setting," of Section 3.18, "Tribal Cultural Resources," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below, as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR.

Federal

There are no specific federal regulations related to Tribal cultural resources. A discussion of federal regulations related to cultural resources and archaeological resources is provided in Section 3.8, "Cultural Resources," of this document.

State

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects in California. CEQA requires lead agencies to determine whether a proposed project would have a significant effect on the environment, including a significant effect on Tribal cultural resources. Under CEQA (PRC Section 21084.2), a project that may cause a substantial adverse change in the significance of a Tribal cultural resource is a project that may have a significant effect on the environment. A discussion of regulations related to cultural resources and archaeological resources is provided in Section3.8, "Cultural Resources," of this document.

Assembly Bill 52 and Tribal Cultural Resources

Assembly Bill (AB) 52, enacted in September 2014, recognizes that Tribes have expertise with regard to their Tribal history and practices. The law established a new category of resources in CEQA—Tribal cultural resources—to consider Tribal cultural values when determining the impacts of projects (PRC Sections 21080.3.1, 21084.2, and 21084.3).

PRC Section 21074(a) defines a "Tribal cultural resource" as any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register [of Historical Resources].
  - Included in a local register of historical resources, as defined in subdivision (k) of [PRC] Section 5020.1.
- 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 PRC Section 5024.1. In applying [these] criteria…the lead agency shall consider the significance of the resource to a California Native American Tribe.

A cultural landscape that meets the criteria of PRC Section 21074(a) is also a Tribal cultural resource if the landscape is geographically defined in terms of the size and scope. A historical resource as described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2, or a non-unique archaeological resource as defined in PRC Section 21083.2 may also be a Tribal cultural resource under CEQA if it meets the criteria identified in PRC Section 21074(a).

AB 52 requires CEQA lead agencies to analyze the impacts of projects on Tribal cultural resources separately from impacts on archaeological resources (PRC Sections 21074 and 21083.09) because Tribal cultural resources have cultural values beyond their ability to yield data important to prehistory or history. AB 52 also defines Tribal cultural resources in a new code section (PRC Section 21074; see above). Lead agencies must engage in additional consultation with California Native American Tribes (PRC Section 21080.3.1, 21080.3.2, and 21082.3).

3.13.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to Tribal cultural resources is considered significant if the Proposed Project would do any of the following:

- Cause a substantial adverse change in the significance of a Tribal cultural resource, defined in PRC 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, or in a local register of historical resources as defined in PRC Section 5020.1(k); or
  - 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 PRC Section 5024.1.
    In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to Tribal cultural resources associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary); the effects of constructed elements (long-term, permanent); and the effects of operations and maintenance activities.

The significance of a Tribal cultural resource is assessed by evaluating the following factors as they apply to the resource:

- Eligibility for listing in the California Register.
- Eligibility as a unique archaeological resource pursuant to PRC Section 21083.2 (g).
- Listing status in the NAHC's Sacred Lands File.

In addition, a lead agency can independently determine a resource to be a Tribal cultural resource.

Tribes traditionally and culturally affiliated with a geographic area have expertise concerning their Tribal cultural resources. Therefore, the analysis of whether impacts of the Proposed Project may result in a

substantial adverse change to the significance of a Tribal cultural resource depends heavily on the results of consultation between the lead agency and culturally affiliated Tribes during the CEQA process.

Impacts and Mitigation Measures

Table 3.13-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.13-1
SUMMARY OF IMPACT CONCLUSIONS—TRIBAL CULTURAL RESOURCES

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.13-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of a Tribal cultural resource, as defined in PRC Section 21074.	SU	SU

Notes: SU = significant and unavoidable
Source: Data compiled by Environmental Science Associates in 2025

Impact 3.13-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of a Tribal cultural resource, as defined in PRC Section 21074. (Final SRGO Program EIR Impact 3.18-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of construction activities for restoration projects that could involve the types of activities that have the potential to affect Tribal cultural resources. It was determined that if projects permitted under the Final SRGO Program EIR would affect Tribal cultural resources as defined in PRC Section 21074, the impact would be potentially significant. Final SRGO Program EIR Mitigation Measures TCR-1 and TCR-2 were required when applicable to a given project, which required an inventory and significance evaluation of Tribal cultural resources in consultation with California Native American Tribes and the consideration of measures to protect Tribal cultural resources during project construction or operation before implementation of any project permitted under the Final SRGO Program EIR. However, the exact details, including the precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR. Thus, it was not known whether implementing the projects permitted under the Order would affect any Tribal cultural resources, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on Tribal cultural resources include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

As described above in Section 3.13.2, "Environmental Setting," one Tribal cultural resource is present on the Proposed Project site. Indigenous Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. Indigenous Resource P-51-000523 is therefore considered a historical resource, a unique archaeological resource, and a Tribal cultural resource for the purposes of CEQA. Impacts on this resource would be significant. Consistent with Final SRGO Program EIR Mitigation Measure TCR-1, the inventory and significance evaluation of

Tribal cultural resources have been completed through development of this SEIR. Final SRGO Program EIR Mitigation Measure TCR-2 would apply because it includes measures to protect Tribal cultural resources during project construction (see Appendix B). SEIR Mitigation Measure 3.8-1 (see Section 3.8, "Cultural Resources") would reduce impacts by implementing a Historic Properties Treatment Plan, which includes treatment measures for reducing adverse effects to historic properties/historical resources through additional subsurface investigations, data recovery, or other means in a culturally appropriate manner. However, development and implementation of a Historic Properties Treatment Plan would not fully reduce the impact on Indigenous Resource P-51-000325, and the impact would be ***significant and unavoidable***. **SEIR Mitigation Measure 3.13-1** would be implemented.

> **Mitigation Measure 3.13-1: Tribal Monitoring, Identification, Treatment, and Reporting of Tribal Cultural Resources (TCRs) and Traditional Cultural Properties (TCPs).** California Native American Tribes that are traditionally and culturally affiliated with the Proposed Project site have expertise concerning their TCRs/TCPs (California PRC Section 21080.3.1). DWR will coordinate with consulting Tribes on development of the Historic Properties Treatment Plan (HPTP) to avoid or minimize impacts to potential TCRs/TCPs (see **Mitigation Measure 3.8-1**). Prior to continuance of construction and associated activities that may result in damage to or destruction of TCRs/TCPs, the following performance standards shall be met as included in Mitigation Measures 3.13-1a through 3.13-1e:
>
> - **Mitigation Measures 3.13-1a: Treatment of TCRs/TCPs.** Consistent with **Mitigation Measure 3.8-1a**, the HPTP should include measures to conduct additional subsurface investigations up to the proposed extent of ground disturbance and minimize impacts where feasible. Additional measures should be identified to treat TCRs/TCPs with culturally appropriate dignity in consideration of Tribal cultural values including recovery and reburial of the resource(s) on-site or in a feasible off-site location preserved in perpetuity and may include:
>   - Protection of the cultural character and integrity of the resource;
>   - Protection of the traditional use of the resource;
>   - Protection of the confidentiality of the resource; and
>   - Protection of the resource.
>
> - **Mitigation Measure 3.13-1b: Tribal Monitoring.** DWR will contract for Tribal monitoring at sensitive locations with consulting culturally affiliated Native American Tribes including compensation for professional services. DWR and their contractors shall coordinate with consulting Tribes to support identification of TCRs including providing a schedule of project-related activities as early as possible (recommended minimum 2 months prior to start of work) to identify activities and areas consulting Tribes request to monitor.
>   - To track the implementation of this measure, Tribes providing monitoring services shall submit monitoring logs to DWR or contracted consultant to document field-monitoring activities.
>   - Timing, duration, means, and methods of monitoring will be coordinated and agreed upon by DWR and consulting Tribes providing monitoring services consistent with **Mitigation Measure 3.8-1d**.

  - In the event the Tribal monitor does not report to the job site at the scheduled time after receiving sufficient notice (recommended at least 24 hours/1 business day in advance), construction activities may proceed without Tribal monitoring.
  - Potential TCRs should not be handled without explicit permission from the Tribe(s) providing monitoring services. All potential TCRs should be respected consistent with Tribal protocols.

- **Mitigation Measure 3.13-1c: Inadvertent Discovery.** If potential Tribal cultural resources are encountered, all construction activities within a minimum of 100 feet (or greater agreed-upon distance) will halt to safely assess the find consistent with **Mitigation Measure 3.8-1e**.
  - Each identified resource will be recorded and evaluated for California Register and National Register eligibility through application of established eligibility criteria (California Code of Regulations 15064.636, PRC Section 21074 and CFR Part 63 respectively) in consultation with culturally affiliated Native American Tribes. In the event of human remains, DWR will consult with the MLD(s) consistent with **Mitigation Measure 3.8-1e**.
  - If a resource is determined to be eligible for listing on the California Register and/or National Register, DWR will avoid damaging effects in accordance with California PRC Section 21084.3, if feasible.
  - If a TCP is determined to be eligible for listing in the National Register, then the procedures for determination of effect and, if adverse, treatment of the resource to resolve adverse effect will be conducted in accordance with the procedures required for compliance with Section 106 of the NHPA (36 CFR Parts 800.5–800.6).

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including potential impacts of constructed facilities and operations and maintenance of those facilities for restoration projects that could involve the types of activities that have the potential to cause a substantial adverse change in the significance of a Tribal cultural resource, as defined in PRC Section 21074. (See Final SRGO Program EIR Section 3.18.4.) Operational activities could involve ground-disturbing activities to install monitoring equipment (e.g., groundwater wells, flow gauges, depth gauges, cameras, stakes, and similar equipment).

The Final SRGO Program EIR stated that constructed facilities and operations associated with new infrastructure or modifications to existing infrastructure could include ground-disturbing activities that could result in significant impacts on Tribal cultural resources. Final SRGO Program EIR Mitigation Measures TCR-1 and TCR-2 were required when applicable to a given project. These measures required an inventory and significance evaluation of Tribal cultural resources before implementation of any project permitted under the Final SRGO Program EIR. However, the exact details, including the precise locations, of any such activities had not yet been determined at the time of publication of the Final SRGO Program EIR. Thus, it was not known whether implementing the projects permitted under the Order would affect any Tribal cultural resources, and this impact was found to be significant and unavoidable. Factors necessary to identify specific impacts on Tribal cultural resources include the project's design, footprint, and type; the precise location of construction activities and facilities; and the type and location of operational activities.

As described previously, one Tribal cultural resource is present on the Proposed Project site. Indigenous Resource P-51-000325 is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. Indigenous Resource P-51-000523 is therefore considered a historical resource, a unique archaeological resource, and a Tribal cultural resource for the purposes of CEQA. Impacts from operations and maintenance would be significant. Consistent with Final SRGO Program EIR Mitigation Measure TCR-1, the inventory and significance evaluation of Tribal cultural resources have been completed through development of this SEIR. Final SRGO Program EIR Mitigation Measure TCR-2 would apply because it includes measures to protect Tribal cultural resources during project construction (see Appendix B). SEIR Mitigation Measure 3.8.1f (see Section 3.8, "Cultural Resources") would reduce impacts on the resource by including an annual monitoring program, the details of which would be included in the Historic Properties Treatment Plan described in SEIR Mitigation Measure 3.8.1. Annual monitoring would ensure that no additional adverse impacts on Indigenous Resource P-51-000325 would result from operations and maintenance of the Proposed Project. However, this measure would not fully reduce the impact, and the impact would be ***significant and unavoidable***.

3.14 Utilities and Service Systems

3.14.1 Introduction

This Draft SEIR supplements the previously certified Final SRGO Program EIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. This section of the Draft SEIR discusses the potential for the Proposed Project to result in new or more severe potentially significant impacts than those identified in the Final SRGO Program EIR related to utilities and service systems: water supply and distribution, wastewater collection and treatment, electric power and natural gas, telecommunications, and solid waste service systems. The environmental setting and the evaluation of impacts on utilities and service systems are based on a review of existing, publicly available literature and data.

Impacts related to energy consumption are discussed in Section 3.9, "Energy." Impacts related to drainage and flooding are addressed in Section 3.11, "Hydrology and Water Quality." Public services and service systems are analyzed in this section.

No comments addressing utilities and service systems were received in response to the Notice of Preparation (NOP). See **Appendix A** for NOP comment letters.

3.14.2 Environmental Setting

Water Supply and Distribution Systems

Water supplies are generally provided by two sources in the area surrounding the Proposed Project site: groundwater and surface water. (See Section 3.11.2, "Environmental Setting," in Section 3.11, "Hydrology and Water Quality.")

Sutter Extension Water District (SEWD) uses gravity flow from the Thermalito afterbay via the Feather River as its primary source of water. The Sunset Pump Station is operated by SEWD generally to supplement its primary source from April through September. Demands are typically highest at the beginning of the growing season, when rice farmers are flooding their fields (typically between mid-April and mid-May). There is also typically an increase in demand for several weeks in July, due to heavy orchard irrigation before the harvest as well as re-flooding of rice fields. For the remainder of the season, the pumps are operated at a reduced rate but are important for continued main canal regulation. The pumps are also used as a backup should one of the 10 drain pumps located throughout the SEWD service area fail, or if water is unavailable to pump (Stantec Consulting Services 2025).

Water Supply and Agricultural Diversions

The lowered water surface elevations caused by removal of the weir may impact upstream agricultural diversions and require individual diverters to evaluate and potentially modify existing diversion works, pumps, or appurtenant infrastructure to maintain existing diversion practices.

Any such modifications would not result in construction or relocation of facilities that could cause significant environmental effects or otherwise constitute an impact under the CEQA thresholds of significance for utilities and service systems. Therefore, these effects do not constitute significant environmental impacts under CEQA.

Wastewater Collection and Treatment Systems

In Sutter County, privately owned septic systems provide for the treatment and disposal of wastewater throughout much of the county. Yuba City, Live Oak, the community of Robbins, and Rio Ramaza are the only areas in the county with sanitary sewer collection systems and wastewater treatment facilities. These sewer collection systems convey wastewater from the homes and business to a wastewater treatment plant. Yuba City discharges its treated effluent to the Feather River. The City of Live Oak discharges its effluent to a Reclamation District 777 drainage canal, which flows to the Sutter Bypass and the Sacramento River. The community of Robbins' effluent is disposed of through evaporation ponds (Sutter County 2008).

There are 11 State-regulated wastewater treatment facilities in Yuba County, including facilities operated by the Olivehurst Public Utilities District, Linda County Water District, River Highland Community Service District, Beale Air Force base, and the Cities of Marysville and Wheatland. In addition, several private sewage systems are operated throughout the county. Private septic systems are also used in Yuba County, particularly in the more rural areas (Yuba County 2011a).

Stormwater Collection and Treatment Systems

Stormwater drainage in unincorporated Sutter and Yuba counties occurs through roads with drainage systems, catch basins, water basins, detention basins, constructed wetlands, artificial channels, aqueducts, curbs, gutters, ditches, sumps, pumping stations, storm drain inlets, and storm drains. Stormwater flowing in these systems either is pumped or drains by gravity into the Sacramento River, the Sutter Bypass, or the Feather River and other local rivers. These stormwater systems are owned and operated by a variety of agencies including reclamation districts, incorporated cities, Sutter and Yuba counties, and the State of California.

Electric Power Use and Infrastructure

Electric power in Sutter and Yuba counties is purchased from Pacific Gas and Electric Company (PG&E) and transmitted by a large network of power plants and transmission lines located throughout California. PG&E currently has sufficient energy supplies and distribution facilities to meet anticipated demands and growth in the region and receives 39 percent of its electricity from natural gas, 22 percent from nuclear, 16 percent from hydroelectric, 14 percent from renewable resources, and 8 percent from coal. PG&E has two public utilities yards near the Proposed Project site to aid with service calls, maintenance, and area outages (Sutter County 2008; Yuba County 2011a). SEWD currently receives electricity service for powering the Sunset Pump Station from PG&E.

According to the California Energy Commission's Energy Consumption Data Management System, a total of 661.6 million kilowatt-hours (kWh) were consumed in Sutter County in 2022, a decrease from 686.5 million kWh consumed in 2021 (California Energy Commission 2025a). In Yuba County, a total of 572.3 million kWh were consumed in 2022, an increase from the 571.1 million kWh consumed in 2021 (California Energy Commission 2025a).

Natural Gas Use and Infrastructure

Natural gas has a demand-driven market and fluctuates during the year with weather and temperature changes. Much of the housing in Sutter County has access to county or city utilities, with almost 65 percent of county households being heated by natural gas utilities (Sutter County 2008). According to

the California Energy Commission's Energy Consumption Data Management System, a total of 21.7 million therms of natural gas hours were consumed in Sutter County in 2022, a decrease from the 22.2 million therms consumed in 2021 (California Energy Commission 2025b). In Yuba County, a total of 11.2 million therms of natural gas were consumed in 2022, a decrease from the 11.4million therms used in 2021 (California Energy Commission 2025b).

Telecommunication Use and Infrastructure

Telecommunications include mobile phone service, cable television service, and internet service, which involve sending information by electronic means, typically through cables, radio waves, or other communication technologies. Telecommunication services in the vicinity of the Proposed Project site include internet and cable television services provided by AT&T, Viasat, Starlink, and T-Mobile, and several mobile providers including AT&T, T-Mobile, and Verizon (Federal Communications Commission 2025).

Solid Waste Collection and Disposal

The Yuba-Sutter Regional Waste Management Authority oversees the disposal and diversion of waste management services in the vicinity of the Proposed Project site. Recology Yuba-Sutter provides solid waste collection services, including garbage pickup, recycling, and yard waste hauling. Recology Yuba-Sutter operates two transfer stations, one in Marysville and the other in Brownsville. Recology also operates a household hazardous waste collection facility, a recycling buyback center, and a composting facility. Once solid waste is collected and sorted at the transfer stations, it is disposed of at the Ostrom Road Landfill, which is owned and operated by Recology Yuba-Sutter (Sutter County 2008; Yuba County 2011a).

The Ostrom Road Landfill is located approximately 17.43 miles southeast of the Proposed Project site. According to the California Department of Resources Recycling and Recovery's (CalRecycle's) Solid Waste Information System Database, the Ostrom Landfill has a remaining capacity of 32,225,000 tons as of 2024, a maximum permitted throughput of 3,000 tons, and a cease-operations date of December 21, 2066 (California Department of Resources Recycling and Recovery 2025).

Existing Underground Utilities

Three parallel, buried discharge lines run approximately 150 feet between the concrete vault structure behind the existing Sunset Pump Station and the valve house. Additional underground utilities identified within the main site of the Proposed Project include gas and water lines, a communication conduit, and a septic system (e.g., tank, effluent line, and leach field) (Stantec Consulting Services 2025).

Existing Overhead Utilities

Overhead electric transmission and distribution lines cross the Feather River levee and enter the main site for the Proposed Project. The transmission line terminates at a substation and the distribution lines cross in multiple directions generally within the southern half of the SEWD property at the main site for the Proposed Project (Stantec Consulting Services 2025).

3.14.3 Regulatory Setting

Federal and State regulations discussed in Section 3.19.3, "Regulatory Setting," of Section 3.19, "Utilities and Service Systems and Public Services," of the Final SRGO Program EIR were reviewed for relevance to the Proposed Project. These regulations are identified below as appropriate, along with any applicable policies that are new or have been updated since certification of the Final SRGO Program EIR. As a statewide, program-level document, the Final SRGO Program EIR did not discuss regional and local regulations; this Draft SEIR provides project-specific regional and local goals and policies to supplement the regulatory setting information provided in the Final SRGO PEIR.

Federal

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), established the institutional structure for the U.S. Environmental Protection Agency (EPA) to regulate discharges of pollutants into waters of the United States, establish water quality standards, conduct planning studies, and provide funding for specific grant projects. Congress has amended the CWA several times since 1972.

EPA has provided most states with the authority to administer many of the provisions of the CWA. In California, the State Water Resources Control Board has been designated by EPA to develop and enforce water quality objectives and implementation plans. The State Water Resources Control Board has delegated the specific responsibilities for the development and enforcement actions to the regional water quality control boards (RWQCBs).

Water quality criteria are designed to protect beneficial uses. Ambient surface water quality may be judged against national and State water quality criteria and specific numeric and narrative objectives of the water quality control plan, or basin plan. Each RWQCB has established its own basin plan, which contains regulations meant to control the discharge of waste and other controllable factors that affect the quality of waters of the State within each region's boundaries.

Section 303(d) requires states, territories, and authorized Tribes to develop a list of water quality–impaired segments of waterways and other water bodies under their jurisdiction. The law requires that the jurisdictions establish priority rankings of waters on the list and develop action plans, or total maximum daily loads, to improve water quality.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point-source discharges of pollutants into waters of the United States. (EPA defines a "point source" as "any single identifiable source of pollution from which pollutants are discharged, such as a pipe, ditch, ship or factory smokestack.") An NPDES permit sets specific discharge limits for point sources that discharge pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. Typically, RWQCBs issue NPDES permits for a 5-year period.

Resource Conservation and Recovery Act

Subtitle D of the Resource Conservation and Recovery Act (United States Code Title 42, Section 6901 et seq.) outlines regulations for municipal solid waste landfills and requires states to implement their own

permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills. EPA's waste management regulations are listed in Code of Federal Regulations Volume 40, Parts 239–282. Resource Conservation and Recovery Act Subtitle D is implemented in California through California Code of Regulations Title 27 and approved by EPA.

State

California Government Code Section 4216

Section 4216 of the Government Code requires State and local agencies to contact a regional notification center before excavating subsurface installations to identify and protect existing underground infrastructure, such as pipelines, conduits, ducts, or wires. Under this law, excavators must delineate the planned excavation site and contact their regional notification center at least 2 working days before excavations.

Public Resources Code Section 41780

The California Legislature set a policy goal that, at a minimum, 75 percent of solid waste generated in the state would be source reduced, recycled, or composted starting January 1, 2020. Additionally, a 50 percent diversion rate was to be enforced for local jurisdictions.

California Integrated Waste Management Act

California's Integrated Waste Management (Assembly Bill 939; Public Resources Code Section 40050 et seq.) requires each jurisdiction in the state to divert at least 50 percent of its waste away from landfills through either waste reduction or recycling. CalRecycle oversees and assists local governments in developing and implementing plans to comply with this law and subsequent legislation.

Senate Bill 610 and Senate Bill 221

In 2001, the California Legislature enacted two pieces of legislation relevant to environmental review focused on water consumption associated with large development projects. Senate Bill (SB) 610 (Chapter 643, Statutes of 2001; Public Resources Code Section 21151.9; and Water Code Section 10910 et seq.) requires the preparation of a water supply assessment for large developments if mandated by the applicable county or city. Government Code Section 66473.7(a)(1) requires an affirmative written verification of sufficient water supply. SB 221 is designed as a "fail-safe" mechanism to help ensure that collaboration occurs early in the planning process to find the needed water supplies to serve a new large subdivision or development.

Because the Proposed Project would not involve the development of any habitable uses, require potable water, or change water use relative to baseline conditions, SB 610 would not apply, and no water supply assessment would be required for the Proposed Project.

Regional and Local

Sutter County Code of Ordinances Title 1300, Chapter 1383

Under California law pursuant to the California Waste Management Act, Sutter County is required to implement source reduction and recycling measures to substantially reduce the volume of waste going to landfills. Sutter County Code Title 1300, Chapter 1383 (CALGreen Building Standards and Water

Efficient Landscape) is applicable to persons applying for a permit from Sutter County for new construction and building additions and alterations (Sutter County 2025).

Sutter County General Plan

The following goals and policies in the Sutter County General Plan are applicable to the Proposed Project (Sutter County 2011):

Goal I-3: Ensure stormwater runoff is collected and conveyed safely and efficiently.

> ***Policy I-31: Availability.*** Require new development to study, coordinate, and plan the provision of stormwater services to support the new development and demonstrate the availability of long-term, safe, and reliable stormwater collection, and conveyance.

Goal I-4: Ensure safe and efficient disposal of solid waste generated in Sutter County, while reducing the County's waste stream.

> ***Policy I-4.1: Reduced Waste Stream.*** Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce the County's waste stream. Such measures may include reducing solid waste, diverting construction waste, and educating the public on solid waste reduction and recycling.

Goal I-5: Balance the provision of energy to meet the needs of the County with support for energy conservation, efficiency, and renewable resources.

> ***Policy I-5.2: Adequate Energy Supplies.*** Work with local utility providers to ensure adequate and affordable supplies of energy are available for existing and future development.

Yuba County Code of Ordinances Title 10, Chapter 10

Under California law pursuant to the California Waste Management Act, Yuba County is required to implement source reduction and recycling measures to substantially reduce the volume of waste going to landfills. Yuba County Code Title 10, Chapter 10 (Building Standard Construction Code) is applicable to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure, or portion thereof, or any appurtenances connected or attached to such buildings or structures throughout the unincorporated area of the County of Yuba (Yuba County 2025).

Yuba County General Plan

The following goal and policies in the Yuba County General Plan are applicable to the Proposed Project (Yuba County 2011b):

Goal CD-12: Level of Service: Public Services and Facilities. Ensure high-quality public services, infrastructure, and facilities with adequate capacity to meet the needs of Yuba County's existing and future residents, businesses, industries, and employers.

> ***Policy CD-12.3:*** The County will implement stormwater master plans designed to provide collection, detention, and conveyance consistent with local standards for developed areas within the Valley Growth Boundary. In general, new developments will be required to demonstrate no net increase in stormwater runoff prior to approval.

Policy CD-12.4: The County will approve new development projects only if adequate capacity exists to accommodate solid waste demand, including processing, recycling, transportation, and disposal.

3.14.4 Impact Analysis and Mitigation Measures

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, an impact related to utilities and service systems is considered significant if the Proposed Project would do any of the following:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- Result in a determination by the wastewater treatment provider that serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of soil waste reduction goals.
- Fail to comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Issues Not Analyzed Further in this SEIR

Implementation of the Proposed Project could result in a determination by the wastewater treatment provider that serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

The Proposed Project would comprise three main elements: weir removal and river restoration, pump station replacement and upgrade and installation of new fish screens, and stabilization of the left bank failure area. As discussed above in Section 3.14.2, "Environmental Setting," in Sutter and Yuba counties, privately owned septic systems provide for the treatment and disposal of wastewater throughout much of the unincorporated portions of the counties. The Proposed Project site is located in a rural unincorporated area of Sutter and Yuba counties and is not currently serviced by a wastewater treatment provider. SEWD operates a privately owned septic system at the Sunset Pump Station.

Construction activities for removal of the Sunset Weir, the Sunset Pump Station replacement and upgrade, and the left bank stabilization work would not include either modifications to wastewater infrastructure or an increase in the projected wastewater produced at the Sunset Pump Station. Further, constructed facilities and operations and maintenance activities are not expected to affect wastewater infrastructure or to lead to an overall increase in wastewater produced on site with implementation of the Proposed Project.

The Proposed Project would not include development of occupied structures that would result in an increase in demand for wastewater treatment. The Proposed Project would not result in a determination by

a wastewater treatment provider that serves or may serve the Proposed Project site that it does not have adequate capacity to serve the Proposed Project in addition to the provider's existing commitments; therefore, no impact would occur, and this issue is not discussed further detail in this Draft SEIR.

Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects.

As discussed in the Final SRGO Program EIR, construction of new natural gas facilities or expansion of existing natural gas facilities is prompted by increased customer demand, typically as a result of new land development (such as development that transitions land use from a rural to more urban use) or population growth. (See SRGO Final Program EIR Section 3.19.4.)

There are no existing natural gas facilities or pipelines within the Proposed Project site (U.S. Department of Transportation 2025). Impacts related to energy consumption and power generation are discussed in Section 3.9, "Energy." Therefore, implementation of the Proposed Project would not cause significant environmental effects from the relocation or construction of new or expanded natural gas facilities. No impact would occur, and this issue is not discussed further in this Draft SEIR.

Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded telecommunication facilities, the construction or relocation of which could cause significant environmental effects.

As discussed in the Final SRGO Program EIR, construction of new telecommunication facilities or expansion of existing telecommunication facilities is prompted by increased customer demand, typically resulting from new land development (such as development that transitions land use from a rural to more urban use) or population growth. (See SRGO Final Program EIR Section 3.19.4.)

As discussed previously, the Proposed Project involves the restoration of the Feather River including bank stabilization, removal of the Sunset Weir, and Sunset Pump Station replacement and upgrade. Telecommunication needs would not increase with the Proposed Project. Furthermore, as described in Section 3.3, "Environmental Issues Not Requiring Further Analysis," and Section 3.3.11, "Growth-Inducing Impacts," the Proposed Project would not include new land development or induce substantial population growth that would include the development of occupied structures that would result in any increase in demand for telecommunication facilities.

Therefore, implementation of the Proposed Project would not cause significant environmental effects because of relocation or construction of new or expanded telecommunication facilities. No impact would occur, and this issue is not discussed further in this Draft SEIR.

Methodology and Assumptions

As discussed in Chapter 1, "Introduction," the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR needs to contain only the information necessary to make the previous EIR adequate for the project

as revised. This means that only those Project-specific activities that would introduce new significant environmental effects or cause a substantial increase in the severity of significant effects identified in the SRGO Program EIR need to be evaluated. Where existing information and analysis in the SRGO Program EIR is considered sufficient to evaluate the impacts of the Proposed Project, no additional environmental review is provided.

As discussed in Chapter 1, this SEIR incorporates by reference the general protection measures and species protection measures outlined in Appendices E and F to the Final SRGO Program EIR, which are intended to avoid and minimize impacts on sensitive resources. Consistent with the Final SRGO Program EIR, the impact analysis for each resource area assumes that applicable general protection measures and species protection measures would be implemented and enforced in the same way as mitigation measures, consistent with Section 15126.4 of the CEQA Guidelines, and that the Proposed Project would be constructed and operated in compliance with relevant federal, State, and local regulations and ordinances. Thus, if the analysis has determined that incorporating one or more general protection measures and/or species protection measures into the Proposed Project would reasonably mitigate an impact, then the impact conclusion is less than significant. If the analysis has determined that an impact would remain significant after the incorporation of appropriate general protection measures and species protection measures, then mitigation measures from the Final SRGO Program EIR and/or Project-specific mitigation measures have been recommended to further reduce the magnitude of the impact. All mitigation measures are from the Final SRGO Program EIR unless specifically stated otherwise.

The following impact analysis considers the potential impacts related to utilities and service systems associated with implementation of the Proposed Project. The impact analysis evaluates the effects of construction activities (short-term, temporary) and the effects of constructed facilities and operations and maintenance (long-term, permanent). The evaluation of impacts on utilities and service systems is based on a review of existing, publicly available literature and data.

Impacts and Mitigation Measures

Table 3.14-1 summarizes the impact conclusions presented in this section for easy reference.

TABLE 3.14-1
SUMMARY OF IMPACT CONCLUSIONS—UTILITIES AND SERVICE SYSTEMS

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.14-1: Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded water, stormwater drainage, or electric power facilities, the construction or relocation of which could cause significant environmental effects.	LTS	LTS
3.14-2: Implementation of the Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	LTS
3.14-3: Implementation of the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs and could fail to comply with federal, State, and local statutes and regulations related to solid waste.	LTS	LTS

Notes: LTS = less than significant

Source: Data compiled by Environmental Science Associates in 2025

Impact 3.14-1: Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded water, stormwater drainage, or electric power facilities, the construction or relocation of which could cause significant environmental effects. (Final SRGO Program EIR Impact 3.19-1.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including the potential for construction activities to require or result in the construction or relocation of new or expanded water systems or stormwater drainage, or electric power facilities, the construction or relocation of which could cause significant environmental effects. (See SRGO Final Program EIR Section 3.19.4.) The Final SRGO Program EIR stated that the implementation of restoration projects could require the relocation of stormwater outfalls, utilities (e.g., electrical power, natural gas, or telecommunications facilities) or water conveyance facilities (e.g., canals and diversions), if those facilities are located near or in the footprint of the restoration project. The Final SRGO Program EIR stated that the types and range of potential environmental effects (e.g., cultural or tribal cultural resources, special-status species and habitat, erosion, water quality, air quality) that could be caused by the relocation of stormwater outfalls or other facilities resulting from construction activities were analyzed in other resource sections of Chapter 3 of the Final SRGO Program EIR. Because there were potentially significant impacts for some of these resource areas, the Final SRGO Program EIR found that this impact would be significant and unavoidable. (See SRGO Final Program EIR Section 3.19.4.) The Final SRGO Program EIR did not include any general protection measures or mitigation measures applicable to this impact.

The Proposed Project would include the removal of the Sunset Weir. Once removed, the water surface elevation of the Feather River would be up to approximately 9 feet lower than under baseline conditions. This would require replacing the three existing vertical turbine pumps and motor units with six vertical turbine pumps and motor units capable of efficiently overcoming the increased static head due to lower river levels. A new transformer would be required to meet the higher power demands of the new pump station. The new transformer would be located at the current location of the existing transformer between the PG&E substation on site and the valve house. The pump station and associated control panel and electrical site and new transformer would be located in the disturbance areas that have been evaluated in other resource sections in Chapter 3 of this Draft SEIR. Where potentially significant environmental effects are identified, this Draft SEIR includes general protection measures, species protection measures, and SRGO mitigation measures to avoid and minimize impacts on environmental resources in the proposed Project area.

Construction activities for the Proposed Project would be short-term and temporary and would be accommodated by existing infrastructure or by temporary or portable infrastructure, such as temporary pumps to meet existing water demand during construction. This impact would be ***less than significant***.

The effects of construction activities associated with the proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.19.2, “Utilities and Public Services,” and Section 3.19.4, “Impacts and Mitigation Measures”) and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addresses the potential for construction of the Proposed Project to cause significant environmental effects because of construction or relocation of new or expanded water or electric power facilities.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential for constructed facilities (natural and artificial infrastructure) and operations and maintenance of those facilities to require or result in the construction or relocation of water or electric power facilities, the construction or relocation of which could cause significant environmental effects. (See SRGO Final Program EIR Section 3.19.4.) The Final SRGO Program EIR determined that routine operations and maintenance activities for restoration projects would not require or result in the construction or relocation of these facilities, and that therefore, impacts would be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact.

As described in Chapter 2, "Project Description," once construction is complete, SEWD would be responsible for operating and maintaining the Sunset Pump Station and would continue to operate and maintain the pump station, fish screens, and their related appurtenances. Operations and maintenance of the Proposed Project would be similar to baseline conditions and would include sediment and debris removal at the fish screens and pump station and monitoring of river conditions. Some of these activities would require the use of heavy equipment, but these activities would be similar to those occurring under baseline conditions on the Proposed Project site. Such operations and maintenance activities would be consistent with those evaluated under the Final SRGO Program EIR.

Operation and maintenance of the constructed facilities associated with the Proposed Project would not require or result in the construction or relocation of water, stormwater drainage, or electric power facilities. Operation and maintenance of constructed facilities would be consistent with existing ongoing practices. This impact would be ***less than significant***.

The effects of constructed facilities and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.19.2, "Utilities and Public Services," and Section 3.19.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addresses post-construction impacts of the Proposed Project related to the construction or relocation of new or expanded water or electrical power facilities.

Impact 3.14-2: Implementation of the Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (Final SRGO Program EIR Impact 3.19-2.)

Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote. These impacts include the potential for impacts of construction activities, constructed facilities (natural and artificial infrastructure), and operations and maintenance of those facilities to result in insufficient water supplies available to serve the restoration projects and reasonably foreseeable development during normal, dry, and multiple dry years. The Final SRGO Program EIR stated that implementation of the restoration projects may require temporary and short-term water demand for construction, as well as limited water supply for maintenance

(e.g., irrigation water may be needed for initial establishment of native plant revegetation). (See SRGO Final Program EIR Section 3.19.4.)

The SRGO Final Program EIR found that constructed facilities may affect water supply availability, such as if water levels are reduced near diversion intakes. However, constructed facilities would need to comply with relevant federal, State, and local regulations and ordinances. The Final SRGO Program EIR found that construction and operations and maintenance activities would not result in an increase in water use or demand, nor would they result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years; impacts were determined to be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See SRGO Final Program EIR Section 3.19.4.)

As discussed in Section 2, "Project Description," the Sunset Weir helps SEWD to maintain hydraulic head for SEWD's Sunset Pump Station. The weir functions as an artificial grade control structure that influences water surface elevations in the Feather River for approximately 6 miles upstream to a point just beyond the confluence with Honcut Creek. Weir removal would eliminate the upstream backwater and lower the current water surface elevation, restoring more natural flow patterns in the Feather River. Concurrently with weir removal and river restoration, the Sunset Pump Station would be replaced and upgraded such that it could operate under the lowered riverine hydraulic conditions, thus allowing SEWD to continue to meet existing water supply obligations. The Proposed Project would not include the development of housing or commercial structures and/or induce substantial population growth that would increase demand for water supply during normal, dry, and multiple dry years.

During construction activities, temporary pumps would be located in the Feather River immediately upstream (north) of the Sunset Weir work area to maintain existing SEWD delivery obligations during construction without substantial disruption. Additionally, water trucks may be used for dust control on the Proposed Project site and along haul routes. Surface water from the Feather River or adjacent canals would be used for dust control. The use of water for dust control would be temporary and would conclude with the completion of construction activities; overall water usage would be nominal and would result in a temporary increase in water usage at the Proposed Project site.

As discussed previously, the Proposed Project would allow SEWD to maintain water deliveries under the new water surface elevations created as a result of removal of the Sunset Weir. With implementation of the Proposed Project, operations and maintenance activities would include annual sediment and debris removal activities to maintain functionality of the fish screens at the Sunset Pump Station. A water truck may be used to minimize dust during sediment removal and grading or disking of removed material if needed; however, this would be consistent with existing conditions and therefore would not result in an increase in water demand for the Proposed Project site.

For these reasons, the Proposed Project would not result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. This impact would be ***less than significant***.

Construction activities, constructed facilities, and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.19.2, "Utilities and Public Services," and Section 3.19.4, "Impacts and Mitigation Measures") and would not

result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addresses the potential for the Proposed Project to result in insufficient water supplies to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Impact 3.14-3: Implementation of the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs and could fail to comply with federal, State, and local statutes and regulations related to solid waste. (Final SRGO Program EIR Impact 3.19-3.)

Effects of Construction Activities

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects that the SRGO would encourage and promote, including the potential for construction activities to generate an amount of solid waste in excess of local landfill capacity or to result in non-compliance with federal, State, and local regulations related to solid waste. (See SRGO Final Program EIR Section 3.19.4.)

The Final SRGO Program EIR describes that the magnitude of the increase in solid waste generation would depend on the restoration project itself; the Project's ability to recycle, reuse, or dispose of materials on site; and the local landfill. Materials generated during construction could be hauled off site to landfills (e.g., building demolition waste), delivered to recycling facilities (e.g., concrete), sold (e.g., organic material to cogeneration facilities), or reused on site or nearby. Most projects permitted under the SRGO that would involve earthmoving activities would not generate large amounts of construction waste that would require disposal at a landfill (e.g., organic materials from borrow sites and restoration construction sites, excavated material, and soil not suitable for earthen structures). The Final SRGO Program EIR determined that construction waste is unlikely to cause the permitted capacity of local landfills to be exceeded or to result in non-compliance with federal, State, and local regulations related to solid waste. The impact was found to be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact. (See SRGO Final Program EIR Section 3.19.4.)

As discussed in Chapter 2, Section 2.4.5, "Proposed Construction Methods," spoils generated during Project construction would consist of approximately 31,000 cubic yards of native soil: 26,000 cubic yards of soil from excavating the left bank, 4,000 cubic yards of unusable excavated weir material, and 1,000 cubic yards of unusable soil generated from the wet well excavation. An additional 5,000 cubic yards of vegetation, debris, and wood material from clearing and grubbing would need to be exported off site for disposal. Spoils would be taken either to the Ostrom Landfill in Wheatland, to an existing DWR spoils site[1] located west of Reclamation Road and north of the Tisdale Bypass, or to SEWD's maintenance yard located at 4525 Franklin Road just west of Yuba City. It is anticipated that the spoils stockpiles would be approximately 10 feet high.

The amount of solid waste generated could be accommodated by the local landfill (Ostrom Landfill), which as of 2024 had 74 percent capacity remaining. Therefore, construction waste is unlikely to cause

[1] This DWR spoils site was evaluated in the *Tisdale Weir Rehabilitation and Fish Passage Project Final Environmental Impact Report* (California Department of Water Resources 2021).

the permitted capacity of local landfills to be exceeded and would be in compliance with federal, State, and local regulations related to solid waste. This impact would be ***less than significant***.

Construction activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.19.2, "Utilities and Public Services," and Section 3.19.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addresses the potential for construction of the Proposed Project to generate an amount of solid waste in excess of local landfill capacity and result in non-compliance with federal, State, and local regulations related to solid waste.

Effects of Constructed Facilities and Operations and Maintenance

The Final SRGO Program EIR evaluated at a programmatic level the potential impacts of the types of restoration projects permitted under the SRGO, including the potential for constructed facilities (natural and artificial infrastructure) and operations and maintenance of those facilities to generate an amount of solid waste in excess of local landfill capacity or to result in non-compliance with federal, State, and local regulations related to solid waste. (See SRGO Final Program EIR Section 3.19.4.) The Final SRGO Program EIR determined that the amount of solid waste likely to be generated by these uses would be very small relative to landfill capacity. The Final SRGO Program EIR found that the effects of constructed facilities and operations and maintenance of those facilities would be less than significant. The Final SRGO Program EIR did not include any general protection measures applicable to this impact.

As described in Chapter 2, Section 2.4.7, "Operation and Maintenance," once construction is complete, constructed overall operations and maintenance for constructed facilities would be similar to baseline conditions. SEWD would operate and maintain the Sunset Pump Station, fish screens, and their related appurtenances. Consistent with baseline conditions, sediment and debris (e.g., large wood) may accumulate near the Sunset Pump Station and fish screens. Thus, some degree of regular maintenance would be necessary to ensure that the pump station and fish screens continue to function as intended. Once removed, the sediment may be hauled in trucks to the spoils sites; placed on access roads, toe roads, private property, or agricultural lands with appropriate approvals; or disked into the ground or road surface once dry. The amount of solid waste needing to be disposed of at the local landfill, if any, would be very small, given that the majority of the sediment would be disposed at existing spoils sites or reused on access roads, toe roads, etc. Any solid waste that could not be accommodated by existing spoils sites could be accommodated by the Ostrom Landfill, which as of 2024 had 74 percent capacity remaining. Therefore, post-construction waste is unlikely to cause the permitted capacity of local landfills to be exceeded, and the Proposed Project would be in compliance with federal, State, and local regulations related to solid waste. This impact would be ***less than significant.***

The effects of constructed facilities and operations and maintenance activities associated with the Proposed Project are consistent with those identified in the Final SRGO Program EIR (Section 3.19.2, "Utilities and Public Services," and Section 3.19.4, "Impacts and Mitigation Measures") and would not result in new or more severe potentially significant impacts. The Final SRGO Program EIR adequately addresses post-construction impacts of the Proposed Project on the generation of solid waste in excess of local landfill capacity and the potential for non-compliance with federal, State, and local regulations related to solid waste.

CHAPTER 4
Cumulative Impacts

4.1 Introduction

As discussed in Chapter 1, the Proposed Project is a "Restoration Project" as defined in Section V of the SRGO (State Water Resources Control Board 2022a); therefore, this SEIR supplements and incorporates by reference the Final SRGO Program EIR, including its appendices (State Water Resources Control Board 2022b). As provided by CEQA Guidelines Section 15163(b), a supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

Chapter 4, "Cumulative Impacts," of the Final SRGO Program EIR presented an analysis of the potential cumulative impacts of restoration projects that would be permitted under the SRGO. The cumulative impact assessment included a representative sample, or range, of reasonably foreseeable and probable programs and projects located within the nine regional water quality control board jurisdictions, which together were defined as the geographic scope of the effects of the SRGO. The study area for the SRGO spans all nine regional water quality control board jurisdictions and all counties and cities in California, and thus, the cumulative analysis was broad and general. This Draft SEIR supplements the Final SRGO Program EIR by providing a project-level analysis of the potential cumulative impacts of the Proposed Project.

4.2 Cumulative Context and Approach

4.2.1 Approach to Cumulative Analysis

CEQA Guidelines Section 15130 requires that an EIR discuss the cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." This term is defined in Section 15065(a)(3):

> *"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.*

Therefore, for purposes of this Draft SEIR, the Proposed Project would have a significant cumulative effect if either of the following statements is accurate:

- The cumulative effects of other past, current, and probable future projects without the Proposed Project are not significant and the Proposed Project's incremental impact would be substantial enough, when added to the cumulative effects, to result in a significant impact.
- The cumulative effects of other past, current, and probable future projects without the Proposed Project are already significant and the Proposed Project would contribute measurably to the effect.

The standards used herein to determine measurability are that the impact either must be noticeable or must exceed an established threshold of significance.

In addition, according to Section 15130(a)(1) of the CEQA Guidelines:

> *[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the projects evaluated in the EIR.*

The CEQA Guidelines allow for the use of two methods to determine the scope of related projects for the cumulative impact analysis (CEQA Guidelines Section 15130[b][1]):

- **List Method:** A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency.
- **Regional Growth Projections Method:** A summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions.

The cumulative analysis in this Draft SEIR uses the list method, which was developed using the criteria discussed in Section 4.2.2 below.

4.2.2 Criteria for Identifying Related "Cumulative Projects"

Cumulative projects were considered for inclusion in the cumulative impact analysis based on the following criteria:

(1) The cumulative project could result in impacts similar to those of the Proposed Project and would affect a portion of the geographic area that could also be affected by implementation of the Proposed Project.

(2) The cumulative project has been constructed and/or sufficiently detailed information about the project is available to allow for meaningful analysis without undue speculation.

(3) The cumulative project meets one of the following criteria:

- The cumulative project is actively under development (i.e., an identified sponsor is actively pursuing project development or construction).
- A Notice of Preparation (NOP) or a notice of intent has been released and/or environmental clearance documentation has been completed, or substantial progress has been made toward completion.
- The cumulative project is "reasonably foreseeable" given other considerations, such as site suitability, inclusion in planning documents, funding availability and economic viability, and/or regulatory limitations (e.g., the project has required regulatory permits).

(4) The cumulative project is not considered part of Proposed Project activities.

The geographic area that could be affected by implementation of the Proposed Project in combination with other projects varies depending on the type of environmental resource being considered. The impact analysis in this Draft SEIR considers different geographic areas as appropriate to each impact. Many cumulative impacts, such as impacts on cultural resources and mineral resources, occur within the

immediate vicinity of a project (adjacent to or within one-half mile); other impacts, such as impacts on hydrology and water quality, affect the local watershed; and still other impacts are regional, such as impacts related to air quality criteria pollutants.

Table 4-1 lists the general physical environment or geographic area associated with different types of environmental effects of the Proposed Project. Also listed is the method of evaluation used to analyze cumulative impacts for each environmental resource (described further above).

TABLE 4-1
GEOGRAPHIC SCOPE OF THE CUMULATIVE IMPACT ANALYSIS

Resource Area	Geographic Area	Description of Geographic Area (cross-reference to section in this Draft SEIR)
Agriculture	SEWD service area and Proposed Project site	Section 3.4.2, "Environmental Setting"
Air Quality and Greenhouse Gas Emissions	Sacramento Valley Air Basin	Section 3.5.2, "Environmental Setting"
Biological Resources—Terrestrial	Lower Feather River watershed and Proposed Project site	Section 3.6.2, "Environmental Setting"
Biological Resources—Aquatic	Lower Feather River watershed and Proposed Project site	Section 3.7.2, "Environmental Setting"
Cultural Resources	Proposed Project site	Section 3.8.2, "Environmental Setting"
Energy	Sutter and Yolo counties	Section 3.9.2, "Environmental Setting"
Hazards and Hazardous Materials	Proposed Project site	Section 3.10.2, "Environmental Setting"
Hydrology and Water Quality	The 6-mile backwater-influenced portion of the Feather River and Proposed Project site	Section 3.11.2, "Environmental Setting"
Recreation	Proposed Project site	Section 3.12.2, "Environmental Setting"
Tribal Cultural Resources	Proposed Project site	Section 3.13.2, "Environmental Setting"
Utilities and Service Systems	Proposed Project site	Section 3.14.2, "Environmental Setting"

Notes: Draft SEIR = draft supplemental environmental impact report; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SEWD = Sutter Extension Water District

Source: Data compiled by Environmental Science Associates in 2025

4.2.3 Cumulative Projects

Table 4-2 lists the cumulative projects that were determined to meet the four criteria listed in Section 4.2.2 for past, current, and probable future projects and were selected for inclusion in the cumulative impact analysis.

As discussed throughout Chapter 3, the largest number of significant potential impacts resulting from the Proposed Project (i.e., those requiring the application of general protection measures, species protection measures or mitigation measures) are related to construction activities. (Examples of such potential impacts include the release of criteria air pollutants or water contaminants, the encountering of unidentified contaminated soil, and disturbance of cultural or Tribal cultural resources as a result of earthmoving and excavation.) Therefore, when compiling the list of cumulative projects, it was necessary to consider other

projects likely to affect and compound impacts on the same resources as the Proposed Project based on project type (i.e., restoration projects) and/or location.

TABLE 4-2
CUMULATIVE PROJECTS

No.	Project	Type	Location	Lead Agency/Proponent	Status
1	SEWD 2025 Water Transfer Program	Water conveyance and transfer program	In the Proposed Project area	SEWD	Ongoing
2	SEWD System Modernization	Infrastructure Improvements	In the Proposed Project area	SEWD	Planning
3	Butte Water District Irrigation System Improvements	Infrastructure improvements	Live Oak	Butte Water District	Planning/design
4	Dual Source Irrigation System Program	Groundwater recharge	Live Oak	Butte Water District	Ongoing
5	Sutter Bypass East Levee	Infrastructure improvements and Flood control	Yuba City	DWR	CEQA completed
6	Yuba City Boat Ramp Sediment Removal Project	Infrastructure improvements, river restoration	Yuba City	Sutter Butte Flood Control Agency	Construction ongoing
7	Oroville Flood Risk Reduction Project	Flood control; habitat restoration	Feather River	Sutter Butte Flood Control Agency	Completed in 2019
8	Feather River West Levee Project	Flood control	Feather River	Sutter Butte Flood Control Agency and USACE	Completed in 2019
9	Sutter Basin Flood Risk Management Project	Flood control	Feather River	Sutter Butte Flood Control Agency	Ongoing
10	Tudor Flood Risk Reduction Project	Flood control	Feather River	Sutter Butte Flood Control Agency and DWR	CEQA completed
11	Star Bend Setback Levee and Habitat Enhancement Project	Flood control; habitat restoration	Feather River	Sutter Butte Flood Control Agency	Completed in 2009
12	Bear River Setback Levee	Flood control; habitat restoration; infrastructure improvement	Feather River	Reclamation District 817	Completed in 2017
13	Natomas Cross Canal Stability Berm and Channel Habitat Enhancement Project	Flood control; habitat restoration	Feather River	Reclamation District 1001	Construction ongoing
14	Feather River Restoration Project	Habitat restoration	Feather River	Sutter County Resource Conservation District	Planning/design
15	Oroville Wildlife Area Robinson's Riffle Restoration Project	Flood control; habitat restoration	Feather River	Sutter Butte Flood Control Agency	Planning/design
16	Pulse Flows Component of the Water Storage Investment Program Groundwater Projects	Habitat restoration	Feather River	DWR	Ongoing

Notes: CEQA = California Environmental Quality Act; DWR = California Department of Water Resources; Proposed Project = Sunset Weir and Pumps Fish Passage Project; SEWD = Sutter Extension Water District; USACE = U.S. Army Corps of Engineers

Source: Data compiled by Environmental Science Associates in 2025

4.3 Cumulative Impact Analysis

The cumulative impact analysis is presented by resource and in the same order as the technical resource sections in Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures." The cumulative impact analysis considers for each resource the potential cumulative effects of construction activities (short-term, temporary); constructed facilities (long-term, permanent); and operations and maintenance activities. For each resource area addressed in this Draft SEIR, the criteria applied to evaluate the significance of the overall cumulative effect are the same criteria used to evaluate direct and indirect impacts for that resource area.

To determine the significance of the Proposed Project's cumulative impacts, a three-step process was followed:

(1) The extent of the cumulative impacts without the Proposed Project was evaluated to determine whether a significant cumulative impact on a resource would exist in the future. Specifically, the combined effects of the past, present, and probable future projects listed in Table 4-2 were evaluated to determine whether there would be a significant cumulative impact.

(2) A determination was made regarding whether the incremental contribution of the Proposed Project to any significant cumulative impact would be cumulatively considerable. "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 (CEQA Guidelines Section 15065[a][3]).

(3) A determination was made as to whether the general protection measures, species protection measures and mitigation measures identified in this Draft SEIR would reduce the contribution of the Proposed Project to the cumulative impact to a less-than-considerable level, thus resulting in a less-than-significant cumulative impact. If not, then the cumulative impact would be significant and unavoidable.

4.3.1 Agriculture

The geographic scope for cumulative impacts related to agriculture is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.4.2, "Environmental Setting," in Section 3.4, "Agriculture," for information about the regional environmental setting related to agricultural resources.

No comments addressing agricultural resources were received in response to the NOP. See Appendix A for NOP comment letters.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site, including within the Feather River. Depending on the location and nature of the cumulative projects, these actions could convert Special Designation Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) to nonagricultural use, would have the potential to conflict with a Williamson Act contract, or could create a conflict with zoning for agricultural use. These effects could be short-term and

temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). These could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on agriculture. See Section 3.4.4, "Impact Analysis and Mitigation Measures," of Section 3.4, "Agriculture," for the analysis of potential effects of the Proposed Project on agricultural resources.

Cumulative Effects of Construction Activities

Construction activities for the Proposed Project would be temporary and would occur adjacent to agricultural lands. Agricultural lands, including Special Designated Farmland, would not be directly affected by the Proposed Project. Temporary staging for the left bank stabilization work would occur within active farmland designated as Prime Farmland and would disturb approximately 80 trees in the orchard (approximately 1 acre). This temporary impact to Special Designation Farmland would not permanently convert the area to non-agricultural use. Construction activities for the Proposed Project have the potential to negatively affect the viability of surrounding agricultural lands, impede access to agricultural areas, or disrupt agricultural infrastructure; therefore, the Proposed Project has the potential to make a considerable contribution to significant cumulative effects of related projects from construction activities.

The following general protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-8, GPM-10 through GPM-12, GPM-15, and VHDR-1 through VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) These general protection measures were designed to reduce the effects of construction activities by preventing the spread of invasive exotic plants, requiring proper equipment maintenance and materials storage, requiring proper disposal of materials, reducing fugitive dust emissions, requiring revegetation of disturbed areas, and reducing impacts associated with vegetation/habitat disturbance, revegetation, and herbicide use. These general protection measures would reduce the contribution of the Proposed Project's construction activities to significant cumulative impacts related to agricultural use to less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

Related to constructed facilities, construction of an construction access road that would require removal of approximately 130 trees (approximately 1.4 acres) within an area designated as Prime Farmland. However, the new access road with this associated tree removal would not result in the conversion of Special Designation Farmland to non-agricultural use because the area would still be used for agricultural purposes. Operations and maintenance for the Proposed Project would not lead to changes in the environment that would cause the conversion of Special Designated Farmland to a nonagricultural use. The Sunset Pump Station would continue to operate in a manner consistent with baseline conditions. Therefore, implementation of the Proposed Project would not make a considerable contribution to significant cumulative impacts associated with conversion of Special Designation Farmland to nonagricultural use, and this cumulative impact would be ***less than significant***.

4.3.2 Air Quality and Greenhouse Gases

The geographic scope for cumulative impacts related to air quality and greenhouse gases (GHGs) is the Sacramento Valley Air Basin. See Section 3.5.2, "Environmental Setting," in Section 3.5, "Air Quality and Greenhouse Gases," for information about the regional environmental setting related to air quality and GHGs.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could increase emissions of criteria pollutants, generate GHG emissions, and create other emissions (such as those leading to odors); expose sensitive receptors to substantial pollutant concentrations; and conflict with or obstruct the implementation of an applicable air quality plan.

For example, projects could construct features or structures that would likely require the use of diesel-powered equipment and vehicles, thus potentially resulting in a short- or long-term cumulatively considerable net increase in pollutants in the Sacramento Valley Air Basin. Similarly, project operations could generate pollutant emissions from stationary sources (e.g., electrical generators) and some maintenance activities could involve substantial use of heavy equipment or other emissions-intensive activities. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on air quality and GHGs. See Section 3.5.4, "Impact Analysis and Mitigation Measures," of Section 3.5, "Air Quality and Greenhouse Gases," for the analysis of potential effects of the Proposed Project on air quality and GHGs.

Cumulative Effects of Construction Activities

Construction activities for the Proposed Project would be temporary and would not result in emissions that would exceed thresholds of significance for criteria pollutants with the implementation of SRGO Mitigation Measures AIR-1 and AIR-2 and SEIR Mitigation Measure 3.5-1 (see Tables 3.5-7 through 3.5-10 in Section 3.5, "Air Quality and Greenhouse Gases"). Therefore, construction of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality control plans. Any odor emissions would be intermittent and would dissipate from the source rapidly over a short distance; in addition, the nearest receptor is located more than 700 feet away from the Proposed Project site and the land use does not fall under any category that is identified as an odor source. The Proposed Project also would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, construction activities for the Proposed Project would not make a considerable contribution to significant cumulative effects of related projects associated with construction activities.

In addition, the following general protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-6, GPM-12, and IWW-13. (See Table 1-7 in Chapter 1, "Introduction," of this

Draft SEIR for general protection measure titles; see also Appendix B.) These general protection measures were designed to reduce the effects of construction activities by limiting speed limits in work areas, reducing fugitive dust, and requiring the development of a dredging operations and dredging materials reuse plan. These general protection measures would reduce the contribution of the Proposed Project's construction activities to significant cumulative impacts related to air quality and GHG emissions to less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

Once construction is completed, the Proposed Project's operations and maintenance activities would generally be similar to existing operations and maintenance activities. Emissions would be generated primarily by employee vehicle trips to and from the area of the Proposed Project site for intermittent operations and maintenance activities. Because of the limited increase in activities associated with the operations and maintenance facilities, routine operations and maintenance activities are not anticipated to violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase of non-attainment pollutants. Trips associated with operations and maintenance activities would have negligible GHG emissions and would not have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, the Proposed Project would not make a considerable contribution to significant cumulative effects of related projects associated with constructed facilities and operations and maintenance activities.

The following general protection measures and mitigation measures from the Final SRGO Program EIR, which would apply to the Proposed Project, were designed to reduce the effects of construction activities but would also reduce the effects of any ground disturbance required for the Proposed Project's operations and maintenance activities: GPM-6 and GPM-12 and SRGO Mitigation Measures AIR-1 through AIR-3. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) These general protection measures were designed to reduce the effects of construction activities by limiting speed limits in work areas and reducing fugitive dust. These general protection measures would further reduce the contribution of the Proposed Project to significant cumulative impacts on air quality and GHG emissions from constructed facilities and operations and maintenance activities, and this cumulative impact would be ***less than significant***.

4.3.3 Biological Resources–Terrestrial

The geographic scope for cumulative impacts related to terrestrial biological resources is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.6.2, "Environmental Setting," in Section 3.6, "Biological Resources–Terrestrial," for information about the regional environmental setting related to terrestrial biological resources.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could adversely affect habitat for special-status plant or wildlife species, result in adverse effects on riparian habitat or sensitive natural community, adversely affect State and federally protected wetlands, interfere with the movement of native resident or migratory

wildlife species, conflict with local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted habitat conservation plan or natural community conservation plan.

For example, construction activities could result in temporary habitat disturbance and permanent habitat loss from clearing of vegetation in equipment staging areas; temporary dewatering of channel sections; and general grading, recontouring, relocation, and/or filling of portions of channels and/or wetlands to accommodate the implementation of projects.

Once constructed, projects could include new and/or rehabilitated existing setback levees, meadow restoration, conveyance facilities, and offstream storage ponds and tanks. Such facilities could result in significant temporary or permanent adverse effects on sensitive natural communities, special-status plant species, and special-status wildlife species and their habitat in the project area. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on terrestrial biological resources. See Section 3.6.4, "Impact Analysis and Mitigation Measures," of Section 3.6, "Biological Resources–Terrestrial," for the analysis of potential effects of the Proposed Project on terrestrial biological resources.

Cumulative Effects of Construction Activities

Construction activities for the Proposed Project could affect terrestrial biological resources. No federally listed or State-listed plant species have the potential to occur on the Proposed Project site. Marginal habitat for several non-listed special-status plant species is present, but none of these plants were observed on the Proposed Project site during the biological reconnaissance surveys, and there is a low potential for them to occur on the site. Therefore, construction activities for the Proposed Project would not contribute to cumulative impacts on special-status plants. Several special-status wildlife species have the potential to occur on the Proposed Project site: valley elderberry longhorn beetle, northwestern pond turtle, burrowing owl, Swainson's hawk, special-status bird species, western red bat, pallid bat, and western mastiff bat.

Construction work for the Proposed Project would affect riparian forest on the Proposed Project site. The amount of newly planted riparian habitat under the Proposed Project would exceed the amount of affected riparian habitat. Construction activities would also result in direct and indirect impacts on waters of the United States and State. Construction activities for the Proposed Project could temporarily interfere with the local movement of native resident or migratory wildlife species. Grading and other ground-disturbing activities could temporarily disrupt the movement of special-status reptiles and amphibians, such as northwestern pond turtle. However, construction work would not substantially interfere with the movement of these species because they could move through adjacent unaffected habitat. In addition, without the implementation of general protection measures and species protection measures, the Proposed Project could result in conflicts with policies or ordinances protecting biological resources. Therefore, construction activities for the Proposed Project could make a considerable contribution to significant cumulative effects of related projects associated with construction activities.

The following general protection measures and species protection measures from the Final SRGO Program EIR were designed to reduce the effects of construction activities and would apply to the Proposed Project: GPM-1 through GPM-15, WQHM-1 through WQHM-6, VHDR-1 through VHDR-5, IWW-6, SPM-1 through SPM-6, REP-1 through REP-6, BIRD-1 through BIRD-5, MAM-1 through MAM-5, and INVERT-3. Therefore, the contribution of the Proposed Project's construction activities to significant cumulative impacts on terrestrial biological resources would be less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

Once constructed, the constructed facilities and operations and maintenance activities for the Proposed Project could affect terrestrial biological resources. Although no special-status plants were identified during the reconnaissance biological surveys, the potential exists for special-status riparian plants to colonize the Proposed Project site in the future. The Proposed Project's operations and maintenance activities could affect the special-status terrestrial wildlife species discussed above under "Cumulative Effects of Construction Activities" because the types of activities and equipment would be generally the same as those described for construction. However, the magnitude and duration of impacts would likely be reduced because the scale of equipment use and ground disturbance would be limited.

The Proposed Project would expand riparian habitat within the Proposed Project site relative to baseline conditions and would result in a net gain of sensitive riparian natural communities. Ongoing long-term maintenance of the Proposed Project site may result in spatially limited, short-term impacts on riparian habitat, particularly if the maintenance requires vegetation management. In addition, the potential exists for indirect effects of maintenance activities on the riparian forest, such as from fugitive dust generation, although the intensity of these indirect effects would be much lower than those associated with the Proposed Project's construction phase. Maintenance of constructed facilities is expected to have effects on habitat within the Feather River similar to those described for Proposed Project construction. However, the effects would be reduced in scope because the scale of equipment use and ground disturbance is expected to be much smaller. The effects of the implemented fish passage project on the movement of terrestrial wildlife species would be largely neutral. In addition, without the implementation of general protection measures and species protection measures, the Proposed Project could result in conflicts with policies or ordinances protecting biological resources. Therefore, the Proposed Project could make a considerable contribution to significant cumulative effects of related projects associated with constructed facilities and operations and maintenance activities.

The following general protection measures and species protection measures from the Final SRGO Program EIR would reduce the effects of any ground disturbance required for constructed facilities and operations and maintenance activities and would apply to the Proposed Project: GPM-1 through GPM-13, GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, VHDR-1 through VHDR-8, IWW-1 through IWW-3, IWW-8, IWW-13, SPM-1 through SPM-6, REP-1, REP-2, REP-4 through REP-6, BIRD-1 through BIRD-5, MAM-1 through MAM-5, INVERT-3, PLANT-1 through PLANT-4, and PLANT-6. Therefore, the contribution of the Proposed Project to significant cumulative impacts on terrestrial biological resources from constructed facilities and operations and maintenance activities would be less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

4.3.4 Biological Resources–Aquatic

The geographic scope for cumulative impacts related to aquatic biological resources is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.7.2, "Environmental Setting," in Section 3.7, "Biological Resources–Aquatic," for information about the regional environmental setting related to aquatic biological resources.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the cumulative projects, these actions could result in substantial adverse effects on special-status fish species directly or indirectly through habitat modifications, or could result in substantial adverse direct effects on the movement of native resident or migratory fish.

For example, construction activities for these cumulative projects, such as earthmoving, vegetation removal, equipment staging, and stockpiling of materials, could indirectly affect special-status fish species by disturbing benthic prey species, mobilizing sediment, disturbing riparian habitat, or causing chemical contamination. The operation of water conveyance projects, for example, could result in direct impacts on special-status fish species, depending on the extent to which the operation influences flows in connecting rivers or streams. Other projects could alter water management operations and could result in the impingement or entrainment of special-status fish species. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on aquatic biological resources. See Section 3.7.4, "Impact Analysis and Mitigation Measures," of Section 3.7, "Biological Resources–Aquatic," for the analysis of potential effects of the Proposed Project on aquatic biological resources.

Cumulative Effects of Construction Activities

Construction activities for the Proposed Project could result in impacts on listed fish—for example, from sediment disturbance and increased turbidity—that would be temporary and would occur during periods when fish are not expected to be present within the Proposed Project site. In addition, dewatering of the work area may lead to temporary loss, alteration, and temporary reduction of aquatic habitat for special-status fish. However, the dewatered areas would be dry only temporarily and would return to normal conditions upon completion of the construction activities. Temporary pumps would be installed upstream of the cofferdam work area to maintain Sutter Extension Water District (SEWD) water deliveries during construction. To meet the requirements needed for deliveries, the pumps may be unscreened, which would have the potential to cause direct loss of fish through entrainment. However, the temporary pumps would be operated during the in-water work window, July 15–September 30, when juvenile salmonids are not expected to be present within the Proposed Project site.

Project construction activities could temporarily affect fish movement through installation of a cofferdam to facilitate construction. The cofferdam would have the potential to temporarily impede or delay migrating adults, limiting their ability to reach spawning and/or rearing areas. However, because the

cofferdam would not block the entire width of the river, the movement of juvenile or adult fishes is unlikely to be significantly affected. Also, in-water work would occur during the designated work window of July 15–September 30, when special-status fish are least likely to be present within or near the Proposed Project site.

The following general protection measures and species protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-2 through GPM-5, GPM-10, IWW-1 through IWW-13, WQHM-1 through WQHM-6, VHDR-1 through VHDR-7 and VHDR-8g, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also Appendix B.) These measures were designed to reduce the effects of construction activities by identifying species protection construction work windows and protecting fish species through specific fish protection measures.

These general protection measures and species protection measures would reduce the contribution of the Proposed Project's construction activities to significant cumulative impacts on aquatic biological resources to less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

Once construction is completed, the restoration elements have the potential to benefit listed fish species and their associated habitat. However, operation of the pump station may affect special-status fish species through entrainment and impingement risks and direct impacts during maintenance activities. The pump station would be fitted with a conical fish screen designed to meet standards in accordance with California Department of Fish and Wildlife and National Marine Fisheries Service fish screening criteria. Thus, entrainment of juvenile salmonids is not expected to occur. Maintenance activities may result in short-term, temporary impacts on special-status fish and their habitat from sediment and turbidity; however, the impact would be temporary and isolated to in-water maintenance areas. Therefore, constructed facilities and operations and maintenance activities for the Proposed Project would not make a considerable contribution to significant cumulative effects of related projects associated with operations and maintenance.

The following general protection measures and species protection measures from the Final SRGO Program EIR (which would apply to the Proposed Project) were designed to reduce the effects of operations and maintenance activities for the Proposed Project: GPM-2, GPM-4, GPM-5, IWW-1 through IWW-4, IWW-13, WQHM-1 throughWQHM-4, WQHM-6, SPM-3, and FISH-1 through FISH-4. (See Tables 1-7 and 1-8 in Chapter 1, "Introduction," of this Draft SEIR for general protection and species protection measure titles; see also Appendix B.)

These general protection measures and species protection measures would reduce the contribution of the Proposed Project to significant cumulative impacts on aquatic biological resources associated with constructed facilities and operations and maintenance activities, and this cumulative impact would be ***less than significant***.

4.3.5 Cultural Resources

The geographic scope for cumulative impacts related to cultural resources is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.8.2, "Environmental Setting," in Section 3.8, "Cultural Resources," for information about the regional environmental setting related to cultural resources.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could cause a substantial adverse change in the significance of a cultural resource including historical resources pursuant to CEQA Guidelines Section 15064.5. For example, projects to install conveyance facilities could involve the construction of intakes and water management facilities, with the potential to damage historic structures and features, such as historic canals or associated historic-period ancillary features (e.g., bridges, weirs). Projects that involve ground-disturbing activities have the potential to uncover subsurface pre-contact (Native American) archaeological resource deposits. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on cultural resources. See Section 3.8.4, "Impact Analysis and Mitigation Measures," of Section 3.8, "Cultural Resources," for the analysis of potential effects of the Proposed Project on cultural resources.

Cumulative Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance

Based on the evaluation presented in Section 3.8, "Cultural Resources," there is one architectural resource in the Proposed Project site, the Sunset Pump Station and Pump House. This architectural resource is not eligible for listing in the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register) and therefore is not considered a historical resource for the purposes of CEQA. Construction, constructed facilities, and operations and maintenance of the Proposed Project would not cause a substantial adverse change in the significance of a historical resource.

There is one archaeological resource in the Proposed Project site that is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. The archaeological resource is therefore considered a historical resource and a unique archaeological resource for the purposes of CEQA. Consistent with Final SRGO Program EIR Mitigation Measure CUL-2, the inventory for and significance evaluation of archaeological resources for the Proposed Project have already been completed. Final SRGO Program EIR Mitigation Measure CUL-3 would apply because it includes measures to protect archaeological resources during project construction (see Appendix B). SEIR Mitigation Measure 3.8-1 would reduce impacts from construction, constructed facilities, and operations and maintenance of the Proposed Project by implementing a Historic Properties Treatment Plan and annual monitoring program. However, development and implementation of a Historic Properties Treatment Plan and annual monitoring would not fully reduce the impact on the archaeological resource.

Further, implementation of the Proposed Project would involve ground-disturbing activities that could disturb human remains, including those interred outside of dedicated cemeteries. Final SRGO Program EIR Mitigation Measure CUL-4 would reduce impacts and would be required for the Proposed Project. Impacts on the archaeological resource and human remains would be significant and unavoidable. Construction activities, constructed facilities, and operations and maintenance activities for the Proposed Project could therefore make a considerable contribution to significant cumulative effects of related projects, and this cumulative impact would be ***significant and unavoidable***.

4.3.6 Energy

The geographic scope for cumulative energy impacts is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.9.2, "Environmental Setting," in Section 3.9, "Energy," for information about the regional environmental setting related to energy.

No comments addressing energy were received in response to the NOP. See Appendix A for NOP comment letters.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site, including within the Feather River. Depending on the location and nature of the cumulative projects, these actions could result in substantial inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation, or they could conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact related to energy. See Section 3.9.4, "Impact Analysis and Mitigation Measures," of Section 3.9, "Energy," for the analysis of potential effects of the Proposed Project related to energy.

Cumulative Effects of Construction Activities

Construction of the Proposed Project would take up to three consecutive construction seasons and would require direct and indirect energy use. Because energy consumption during construction would be temporary and all applicable regulations governing energy consumption would be implemented, the Proposed Project does not have the potential to make a considerable contribution to significant cumulative effects related to energy use. This cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

Operation of the Proposed Project is expected to require approximately 58.7 kilowatt-hours to pump an acre-foot of water from the Sunset Pump Station; this would be an increase of approximately 12 kilowatt-hours per acre-foot of water pumped compared to baseline conditions. Power would continue to be supplied by Pacific Gas and Electric Company. No changes to hydropower generation would occur with the Proposed Project. The Proposed Project would implement energy conservation or efficiency efforts and would be constructed in adherence to the California Building Code, which would require the increased use of renewable resources and practices that would enhance energy efficiency. Furthermore, the

Proposed Project would not result in the conversion of any undeveloped land that could have been used to meet any State or local plans for renewable energy or energy efficiency. Therefore, implementation of the Proposed Project would not make a considerable contribution to significant cumulative impacts associated with energy use, and this cumulative impact would be ***less than significant***.

4.3.7 Hazards and Hazardous Materials

The geographic scope for cumulative impacts related to hazards and hazardous materials is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" In the case of hazards and hazardous materials, some effects could be localized (e.g., encountering contaminated soils during construction would result in impacts only in the immediate vicinity of the encounter) and others could be broader in scope (e.g., contaminants released into the air or water that could spread across the region). See Section 3.10.2, "Environmental Setting," in Section 3.10, "Hazards and Hazardous Materials," for information about the regional environmental setting related to hazards and hazardous materials.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. These activities, introduction of new features, or operations could involve the routine transport, use, or disposal of hazardous materials, encounter previously unidentified contaminated soil and/or groundwater, interfere with emergency response access or with an adopted emergency response or evacuation plan, or create vector habitat that would pose a significant public health hazard. For example, construction of restoration projects could require grading, plowing, or disking for the preparation of seed beds and could expose existing on-site hazardous materials if located on an unidentified contaminated site. Both construction and operation of these projects could involve the transport, use, or disposal of hazardous materials and result in the accidental release of hazardous materials, which could create a hazard to the public or the environment. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact related to hazards and hazardous materials. See Section 3.10.4, "Impact Analysis and Mitigation Measures," of Section 3.10, "Hazards and Hazardous Materials," for the analysis of potential effects of the Proposed Project on hazards and hazardous materials.

Cumulative Effects of Construction Activities

Construction of the Proposed Project would require the use of limited quantities of hazardous materials commonly used during construction activities. If improperly used, stored, handled, transported, or disposed of, hazardous materials could be accidentally released, which could expose construction workers, the public, and the environment (including soil, groundwater, or surface water) to contamination. The Proposed Project is not located in an area of known contamination or a hazardous materials site; however, earthwork or dewatering required during construction of the Proposed Project would have the potential to encounter soil or groundwater contamination. Although heavy equipment entering and exiting the area of the Proposed Project site could temporarily disrupt traffic, construction activities would not result in street closures or lane blockages. Stagnant water could be present in construction areas, creating

potential mosquito habitat; however, this ponded water would likely be infrequent and would not last long enough to support mosquito hatching. In summary, the Proposed Project's construction activities could make a considerable contribution to significant cumulative effects of related projects associated with construction activities.

The following general protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-6, GPM-7, GPM-10 through GPM-12, GPM-14, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, IWW-1 through IWW-3, IWW-6, IWW-13, and VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) These general protection measures were designed to reduce the effects of construction activities by imposing speed limits in work areas, protecting environmentally sensitive areas, requiring proper equipment maintenance and materials storage, requiring that the work area be cleaned up after the completion of construction, protecting water quality, preventing hazardous material spills and accidental discharge, implementing in-water work measures, and requiring the proper use of herbicides.

Additionally, the following mitigation measures from the Final SRGO Program EIR were designed to reduce the effects of construction activities and would be implemented for the Proposed Project:

- SRGO Mitigation Measure HAZ-1, which requires preparation and implementation of a health and safety plan and would provide qualified oversight of fill removal related to earthmoving activities.
- SRGO Mitigation Measure HAZ-2, which requires notification to appropriate federal, State, and local agencies if contaminated soils are identified.
- SRGO Mitigation Measure HAZ-3, which requires notification of appropriate federal, State, and local agencies if accidental discharges of hazardous materials occur.

(See Table 1-9 in Chapter 1, "Introduction," of this Draft SEIR for mitigation measure titles; see also Appendix B.)

These general protection measures and mitigation measures would reduce the contribution of the Proposed Project's construction activities to significant cumulative impacts related to hazards and hazardous materials to less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

The potential effects of constructed facilities and operations and maintenance activities related to hazards and hazardous materials would be reduced in scope compared to the effects of construction activities, as equipment use would be expected to be smaller in scale and more spread out over time for operations and maintenance activities than during project construction. Ground-disturbing operational activities for the Proposed Project would occur in the same areas as construction; therefore, such operational activities would not be expected to encounter previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks associated with hazardous materials. The Proposed Project would not increase vector habitat on site compared to baseline

conditions. Therefore, the Proposed Project's incremental contribution to cumulatively significant impacts would be less than considerable.

The general protection measures from the Final SRGO Program EIR, which would apply to the Proposed Project, that were designed to reduce the effects of construction activities (presented above) would also reduce the effects of ground-disturbing operations and maintenance activities for the Proposed Project. These general protection measures would reduce the contribution of the Proposed Project to significant cumulative impacts related to hazards and hazardous materials associated with constructed facilities and operations and maintenance activities, and this cumulative impact would be ***less than significant***.

4.3.8 Hydrology and Water Quality

The geographic scope for cumulative impacts related to hydrology and water quality is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.11.2, "Environmental Setting," in Section 3.11, "Hydrology and Water Quality," for information about the regional environmental setting related to hydrology and water quality.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could substantially alter the existing drainage pattern of a 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 that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.

Additionally, construction and operation of the cumulative projects listed in Table 4-2 could substantially deplete groundwater supplies or interfere with groundwater recharge, impeding sustainable groundwater management or obstructing implementation of a sustainable groundwater management plan; or could result in the release of pollutants to surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.

For example, project construction could involve earthmoving activities that could temporarily disturb streambed sediments and cause the resuspension of sediment-associated pollutants (e.g., trace metals, heavy metals, pesticides) associated with either legacy activities such as gold mining or contemporary activities such as watershed urbanization. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections summarize the modeling evaluation of future cumulative conditions, then evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on hydrology and water quality. See Section 3.11.4, "Impact Analysis and Mitigation Measures," of Section 3.11, "Hydrology and Water Quality," for the analysis of potential effects of the Proposed Project on hydrology and water quality.

Cumulative Effects of Construction Activities

Construction-related changes in the Proposed Project site's surface water quality and drainage patterns would be temporary and localized. Construction activities for the Proposed Project could introduce pollutants into surface water or groundwater through the use of equipment (e.g., oils, lubricants, hydraulic fluids), earth disturbance (e.g., soil and sediment), and the use of materials such as concrete. Dewatering operations may generate elevated levels of suspended sediment, turbidity, or other constituents that could degrade water quality when discharged into surface waters. Additionally, grading and excavation during construction of the Proposed Project could disturb sediments and mobilize heavy metals and other contaminants.

Construction work could include soil compaction or other activities that would temporarily increase impervious land surfaces. Other construction methods, such as vegetation clearing, could alter drainage patterns during construction, which could result in changes to groundwater recharge. However, these reductions would be localized and temporary, and preconstruction conditions would be expected to resume, or to be improved upon, after construction.

Temporary construction activities for the Proposed Project would not alter drainage patterns in a manner which would substantially impede or redirect flood flows. However, compared to baseline conditions, construction activities could temporarily increase rates of erosion and sediment loading to receiving waters, alter drainage patterns, and change the amount and rate of surface runoff during a rain event. Therefore, the Proposed Project's construction activities could make a considerable contribution to significant cumulative effects of related projects associated with construction activities.

With adherence to the National Pollutant Discharge Elimination System regulations, construction of the Proposed Project would not result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan. Additionally, the following general protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-10 through GPM-12, WQHM-1 through WQHM-6, IWW-1 through IWW-4, IWW-6, IWW-10 through IWW-13, VHDR-2 through VHDR-4, and VHDR-6 through VHDR-8. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) These general protection measures were designed to reduce the effects of construction activities by requiring proper equipment maintenance and materials storage, requiring proper disposal of materials, reducing fugitive dust, protecting water quality, preventing hazardous materials spills and accidental discharge, and requiring the implementation of in-water work measures, revegetation of disturbed areas, and proper use of herbicides.

The National Pollutant Discharge Elimination System's regulatory requirement and the general protection measures would reduce the contribution of the Proposed Project's construction activities to significant cumulative impacts related to hydrology and water quality to less than cumulatively considerable, and this cumulative impact would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

The long-term effects of the constructed facilities and operations and maintenance for the Proposed Project are anticipated to be beneficial or neutral compared to baseline conditions. The results of modeling for hydrodynamics and water quality constituents support the conclusion that the Proposed Project would result in negligible changes in sedimentation levels across the Proposed Project site. Therefore, the constructed facilities and operations and maintenance would not result in a release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.

The constructed facilities and operations and maintenance activities would not require the use of groundwater; thus, they would not substantially deplete groundwater supplies and the Proposed Project would not significantly interfere with groundwater resources in the area of the Proposed Project site.

The Proposed Project would result in no adverse impacts on flood stages in the system. The lower water surface elevation associated with the Proposed Project site would correlate with reduced flood risks and minimal changes in channel erosion and scour. The Proposed Project would restore the Feather River channel to a natural grade, thus allowing for more natural riverine morphology and restoring natural fish passage conditions.

The constructed facilities and the operation and maintenance of such features would not alter the existing drainage patterns in a manner that would result in substantial on or off-site erosion and siltation; result in a substantial increase in the rate or amount of surface runoff which would result in on or off-site flooding; create or contribute runoff water which would exceed the capacity of the stormwater drainage system or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.

Therefore, the Proposed Project's constructed facilities and operations and maintenance would not make a considerable contribution to significant cumulative effects of related projects, and the cumulative impact related to hydrology and water quality associated with constructed facilities and operations and maintenance activities would be ***less than significant***.

4.3.9 Recreation

The geographic scope for cumulative impacts related to recreation is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.12.2, "Environmental Setting," in Section 3.12, "Recreation," for information about the regional environmental setting related to recreation.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the cumulative projects, these actions could significantly alter, impair, degrade, or eliminate recreational resources, facilities, and opportunities; could require the construction or expansion of recreational facilities that could result in significant environmental impacts; or could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or

be accelerated. For example, restoration projects could involve the removal of tide gates and legacy structures that could temporarily impair, degrade, or eliminate recreational resources, facilities, and opportunities. Flood control projects that change water operations could alter the duration of flooding in managed ponds used for recreational hunting. The temporary removal of soil and vegetation, excavation and grading activities, dust abatement, staging and storage of equipment and materials, vehicle parking, and construction operations could further impair recreation opportunities. These effects on recreation could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on recreation. See Section 3.12.4, "Impact Analysis and Mitigation Measures," of Section 3.12, "Recreation," for the analysis of potential effects of the Proposed Project on recreation.

Cumulative Effects of Construction Activities, Constructed Facilities, and Operations and Maintenance

Although impacts on recreational features and activities may occur during the Proposed Project's construction activities, these activities would not substantially impair or prevent access to recreational resources, facilities, and opportunities and would not degrade or eliminate them. There are multiple public access points for recreation in the Feather River in the vicinity of the Proposed Project site that would not be affected by the Proposed Project, and removal of the Sunset Weir would ultimately restore fish and boat passage once construction is complete. Under baseline conditions, SEWD lands are not open to public access or recreation, and this would not change with the Proposed Project. The following general protection measures from the Final SRGO Program EIR would apply to the Proposed Project: GPM-6, GPM-7, GPM-10 through GPM-15, WQHM-1, WQHM-2, WQHM-4 through WQHM-6, IWW-1 through IWW-3, IWW-5, IWW-6, IWW-8, IWW-13, VHDR-1 through VHDR-4, and VHDR-6. (See Table 1-7 in Chapter 1, "Introduction," of this Draft SEIR for general protection measure titles; see also Appendix B.) Therefore, the Proposed Project would not make a considerable contribution to significant cumulative effects of related projects, and the cumulative recreation impact associated with construction activities, constructed facilities, and operations and maintenance activities would be ***less than significant***.

4.3.10 Tribal Cultural Resources

The geographic scope for cumulative impacts related to Tribal cultural resources is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" See Section 3.13.2, "Environmental Setting," in Section 3.13, "Tribal Cultural Resources," for information about the regional environmental setting related to Tribal cultural resources.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could cause a substantial adverse change in the significance of a Tribal cultural resource. For example, projects that involve the use of heavy equipment and ground disturbance, such as grading of levees for erosion control, could result in the disturbance and destruction of surficial and subsurface Tribal cultural resources. Projects involving operational activities could limit Tribal access to sacred locations or gathering sites. These effects could be short-term and

temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on Tribal cultural resources. See Section 3.13.4, "Impact Analysis and Mitigation Measures," of Section 3.13, "Tribal Cultural Resources," for the analysis of potential effects of the Proposed Project on Tribal cultural resources.

Cumulative Effects of Construction Activities, Constructed Facilities, and Operations, and Maintenance

Based on the evaluation presented in Section 3.13, "Tribal Cultural Resources," there is one Tribal cultural resource in the Proposed Project site that is eligible for listing in the National Register under Criteria A and D and the California Register under Criteria 1 and 4. The Tribal cultural resource is therefore considered a historical resource, a unique archaeological resource, and a Tribal cultural resource for the purposes of CEQA. Consistent with Final SRGO Program EIR Mitigation Measure TCR-1, the inventory and significance evaluation of Tribal cultural resources have been completed through development of this SEIR. Final SRGO Program EIR Mitigation Measure TRC-2 would apply because it includes measures to protect Tribal cultural resources during project construction (see Appendix B). SEIR Mitigation Measures 3.8-1 and 3.13-1 would reduce impacts from construction, constructed facilities, and operations and maintenance of the Proposed Project by implementing a Historic Properties Treatment Plan, annual monitoring program, and coordinating with consulting Tribes. However, these measures would not fully reduce the impact, and the impact would be significant and unavoidable. Construction activities, constructed facilities, and operations and maintenance of the Proposed Project could therefore make a considerable contribution to significant cumulative effects of related projects, and this cumulative impact would be ***significant and unavoidable***.

4.3.11 Utilities and Service Systems

The geographic scope for cumulative impacts related to utilities and service systems is defined by the area discussed in Section 4.2.2, "Criteria for Identifying Related 'Cumulative Projects.'" In the case of utilities and service systems, this is further constrained by the service areas for the utilities and service systems that serve the cumulative projects (i.e., water supply and distribution systems, wastewater collection and treatment systems, electric power use and infrastructure, natural gas use and infrastructure, telecommunication use and infrastructure, and solid waste collection and disposal). See Section 3.14.2, "Environmental Setting," in Section 3.14, "Utilities and Service Systems," for information about the regional environmental setting related to utilities and service systems.

The cumulative projects listed in Table 4-2 could involve construction activities, introduce new physical features, or involve facility operations occurring in the vicinity of the Proposed Project site. Depending on the location and nature of the projects, these actions could require or result in the construction of new or expanded water or electric power facilities; could result in insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; or could be served by a landfill with insufficient permitted capacity to accommodate the project's solid

waste disposal needs and could fail to comply with federal, State, and local statutes and regulations related to solid waste.

For example, projects could require the relocation of stormwater outfalls or utilities (e.g., electric power, natural gas, or telecommunication facilities) that would cause significant environmental effects. These effects could be short-term and temporary (construction-related activities) and long-term and permanent (operations and maintenance of facilities). This could result in a cumulatively significant impact.

The following subsections evaluate whether the Proposed Project's construction activities, constructed facilities, and operations and maintenance activities could result in a cumulatively considerable impact on utilities and service systems. See Section 3.14.4, "Impact Analysis and Mitigation Measures," of Section 3.14, "Utilities and Service Systems," for the analysis of potential effects of the Proposed Project on utilities and service systems.

Cumulative Effects of Construction Activities

The Proposed Project would result in the rehabilitation of water conveyance pipes, replacement and upgrade of the Sunset Pump Station, and construction of a new electric transformer. Construction activities for the Proposed Project would be short-term and temporary and would be accommodated by existing infrastructure or by temporary or portable infrastructure, such as diesel generators. In addition, the rehabilitation of water conveyance pipes, Sunset Pump Station replacement and upgrade, and construction of a new electric transformer would be located in disturbance areas that have been evaluated in other resource sections in Chapter 3 of this Draft SEIR. Construction activities would not result in insufficient water supplies available to serve the Proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years. The amount of solid waste generated during Proposed Project construction could be accommodated by the Ostrom Landfill in Wheatland, which as of 2024 had 74 percent capacity remaining. Therefore, the Proposed Project's construction activities would not make a considerable contribution to significant cumulative effects of related projects, and the cumulative impact related to utilities and service systems associated with construction activities would be ***less than significant***.

Cumulative Effects of Constructed Facilities and Operations and Maintenance

The Proposed Project's constructed facilities and associated operations and maintenance activities would not require or result in the construction or relocation of water, stormwater, or electric power facilities. Operation and maintenance of the constructed facilities would be similar to baseline conditions and would not create additional significant environmental effects, insufficient water supplies, or solid waste that could not be accommodated by the local landfill. Therefore, the Proposed Project would not make a considerable contribution to significant cumulative effects of related projects, and the cumulative impact related to utilities and service systems associated with constructed facilities and operations and maintenance activities would be ***less than significant***.

CHAPTER 5
Alternatives

5.1 Introduction

The principles used to guide selection of the alternatives analyzed in this Draft SEIR are provided by Section 15126.6 of the CEQA Guidelines, which specifies that an EIR must do all of the following:

- Describe a reasonable range of alternatives to the project, or to the location of the project, that could feasibly attain most of the basic objectives of the project.
- Consider alternatives that could avoid or substantially lessen any significant environmental impacts of the project, including alternatives that may be costlier or could otherwise impede the project's objectives.
- Evaluate the comparative merits of the alternatives.

The focus and definition of the alternatives evaluated in this Draft SEIR are governed by the "rule of reason," in accordance with Section 15126.6(f) of the CEQA Guidelines. That is, the range of alternatives presented in this Draft SEIR must permit a reasoned choice by DWR, as the CEQA lead agency. CEQA Guidelines Section 15126.6 requires that an EIR evaluate at least one "No Project Alternative," evaluate a reasonable range of alternatives to the project, identify alternatives that were considered during the scoping process but eliminated from detailed consideration, and identify the "environmentally superior alternative."

Although the CEQA Guidelines (Section 15126.6[d]) require that alternatives be evaluated, they permit the evaluation to be conducted in less detail than for the proposed project. Consistent with Section 15126.6(d) of the CEQA Guidelines, the information provided in this Draft SEIR about each alternative is sufficient to allow for a meaningful evaluation, analysis, and comparison of the alternatives.

5.1.1 Summary of Final SRGO Program EIR Alternatives

In accordance with CEQA Guidelines Section 15126.6, the Final SRGO Program EIR evaluated alternatives to the State Water Resources Control Board's "Order for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide" in Chapter 6, "Alternatives." Four alternatives were identified for further evaluation in the Final SRGO Program EIR:

- The No Project Alternative.
- Alternative 1—Specify More Narrowly the Types of Restoration Projects Included in the Order.
- Alternative 2—Eliminate Certain Aspects of Restoration Categories.
- Alternative 3—Exclude Entire Categories of Restoration Projects.

Under the No Project Alternative, the State Water Resources Control Board would take no action to approve the Order to expedite regulatory approval of restoration projects that fall outside the project size limits of the existing "Order for Small Habitat Restoration Projects" (Order #SB12006GN). Restoration projects initiated by project proponents would continue to be implemented, and projects would remain subject to the requirement to file a Clean Water Act Section 401 water quality certification and/or waste discharge requirements for each restoration project. The No Project Alternative would not achieve the objective to help streamline the regulatory process for restoration projects statewide by interpreting State standards in a uniform manner to ensure that the projects are consistent with federal and State water quality laws.

Alternative 1 specified more narrowly the types of restoration projects included in the Order (e.g., the project must exceed a certain limited percent of footprint). This alternative would allow for larger restoration projects than specified in the Order for Small Habitat Restoration Projects but would be more limited than the Order. Alternative 2 eliminated certain aspects of restoration categories (e.g., bank stabilization projects that depend on riprap, removal of small dams). Alternative 3 excluded entire categories of restoration projects (e.g., water conservation, floodplain restoration).

The analysis presented in Chapter 6 of the Final SRGO Program EIR found that Alternatives 1, 2, and 3 would result in impacts similar to those of the proposed project, but potentially at a lesser magnitude. Alternative 3 excludes entire categories of restoration projects, which, depending on the excluded restoration category, could result in less construction activity than under the other alternatives. Therefore, Alternative 3 was found to be the environmentally superior alternative. However, all three of these alternatives were eliminated because they would not have achieved the same degree of environmental benefits as the Order and would have limited the restoration projects covered under the Order such that they would not have fully achieved streamlining of the regulatory process for restoration projects statewide.

According to CEQA Guidelines Section 15163, this Draft SEIR needs to contain only the information necessary to analyze the Proposed Project, including changed circumstances and new information requiring additional environmental review beyond that provided in the Final SRGO Program EIR. The range of alternatives described and evaluated in the Final SRGO Program EIR appropriately consisted of alternatives to the program-level regulatory coverage provided by the Order, which are not relevant to project-specific alternatives. Therefore, consistent with CEQA Guidelines Section 15126.6(d), this Draft SEIR provides a Proposed Project–specific alternatives development process and evaluation sufficient to allow for a meaningful evaluation, analysis, and comparison of the alternatives with the Proposed Project.

5.2 Alternatives Development and Screening

As discussed in Section 5.1, CEQA requires that an EIR describe and evaluate a reasonable range of alternatives to a project or to the location of a project that would feasibly attain most of the basic project objectives and avoid or substantially lessen significant project impacts.

As presented in Chapter 2, Section 2.3, "Project Objectives," the Proposed Project's goals and objectives are:

Goal 1: Accommodate passage of protected migratory fish species at Sunset Weir.

Supporting Objectives:

1. Remove physical barriers (i.e., Sunset Weir) to upstream migration of adult green sturgeon and salmonids.
2. Provide a stable transition from upstream to downstream and restore hydraulic/riverine conditions (e.g., depth, velocity, drop heights) conducive to adult and juvenile green sturgeon and salmonid passage.
3. Minimize predation and disorientation of downstream-migrating juvenile green sturgeon and salmonids.
3. Minimize potential for impingement of juvenile green sturgeon and salmonids at the Sunset Pumps intake facility by meeting current fish screen criteria.

Goal 2: Preserve overall water delivery system stability and reliability with no change in Sutter Extension Water District's (SEWD's) capacity and operational flexibility to deliver water to its customers.

Supporting Objectives:

1. Meet optimal submergence criteria for pumps to continue to divert water from the Feather River under lower head conditions following removal of Sunset Weir.
2. Minimize disruption to SEWD's customers during construction.
3. Consider long-term operation and maintenance in the design, including sediment dynamics, at the new screens/pumps.

This section describes the development of a reasonable range of alternatives based on the criteria stated above, the method used to screen the alternatives, and the alternatives considered but eliminated from detailed consideration in this document.

5.2.1 Development of a Reasonable Range of Alternatives

The alternatives considered in this Draft SEIR were developed based on information gathered during development of the Proposed Project and during the Draft SEIR scoping process (Chapter 1, Section 1.3, "Environmental Review and Approval Process").

In developing the Proposed Project, potential design options were considered based on input from hydraulic engineers, aquatic biologists, and other technical experts, as well as the *Sunset Weir and Pumps Fish Passage Project Alternatives Evaluation Study* (Environmental Science Associates 2023), the draft Feasibility-Level Engineering Basis of Design Report (Environmental Science Associates 2024), and draft Pump Station Basis of Design Report (Stantec Consulting Services 2025).

5.2.2 Methods Used to Screen Alternatives

Potential alternatives were screened based on their ability to feasibly attain most of the basic project objectives, their feasibility within the limits of DWR's jurisdiction, and their ability to reduce or eliminate any significant environmental impacts of the Proposed Project.

- **Meeting the Proposed Project objectives**—The Proposed Project objectives are listed above and in Chapter 2, Section 2.3, "Project Objectives." The CEQA Guidelines state that alternatives must feasibly attain most of the basic objectives of the project. Alternatives that did not meet the majority of the objectives for the Proposed Project were screened out and not carried forward for further evaluation in this Draft SEIR.
- **Feasibility**—Alternatives that do not meet the requirements of applicable laws and regulations were not carried forward for further evaluation in this Draft SEIR.
- **Avoiding or lessening any potentially adverse environmental effect of the Proposed Project**—Consistent with the CEQA Guidelines, alternatives should avoid or substantially lessen one or more of the significant environmental effects of the Proposed Project. Alternatives that would not lessen or avoid a potentially significant environmental impact may be eliminated from detailed evaluation in the Draft SEIR.

5.2.3 Alternatives Considered but Rejected from Further Consideration

The CEQA Guidelines require an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible, and to briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) of the CEQA Guidelines states the following:

> *The EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination…Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

Alternatives that were considered but rejected from further analysis are described below along with the reasons that they were rejected from further consideration.

Alternative Location

The Sunset Weir represents a potential barrier for adult fish passage, particularly Central Valley fall-run Chinook salmon, Central Valley spring-run Chinook salmon (listed as threatened under the federal and California endangered species acts), Southern Distinct Population Segment (sDPS) green sturgeon (listed as threatened under the federal Endangered Species Act), and Central Valley steelhead (listed as threatened under the federal Endangered Species Act). Previous analyses have suggested that the weir may be impassable for green sturgeon when flows in the Feather River drop below approximately 6,000 cubic feet per second. Because removal of the weir has been identified as a priority for the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, an alternative location for the Proposed Project was not considered further. Proposed Project goals focus

on restoring unimpeded fish migration and longitudinal habitat connectivity and enhancing the riverine ecosystem function through the area of the Proposed Project site without compromising SEWD's ability to deliver water.

Main Canal Capacity Improvements Alternative

SEWD conducted a conceptual-level investigation to identify the measures necessary to increase the capacity of the Main Canal, which would allow for abandoning the Sunset Pumps in conjunction with weir removal. If the Main Canal had sufficient capacity, all of SEWD's water could be obtained legally from the Thermalito Afterbay (via discharge into the Main Canal). This concept would necessitate improvements to portions of the Main Canal to increase the canal's capacity by 200 cubic feet per second (about a 20 percent increase) down to the Sunset Pumps, thus eliminating the need for the Sunset Weir and Pumps, and these facilities could be removed.

The primary elements of this option would be to remove the existing canal bottlenecks, line areas of the canal with concrete, and install and/or modify flow control structures for more automated system operation. This alternative would also require replacing diversion structures and bridges along the canal that are in conflict with the canal lining. This alternative was financially infeasible and would likely result in more severe impacts than the Proposed Project, given that existing diversion structures and bridges along the canal would need to be replaced, and it was not considered further.

Horizontal Collector Wells Alternative

Horizontal wells, or radial collector wells, were considered as an alternative to the existing intake pump station as a way to divert water from the Feather River without the need for the Sunset Weir. Conceptually, the collector wells would be a means of pulling surface water through the bed of the Feather River. Horizontal collector wells generally consist of a vertical reinforced concrete shaft with horizontal well screens projected out into the aquifer or other unconsolidated material. During operation, groundwater enters the well through the slots in the laterals and flows into the caisson, where one or more pumps are installed; caisson diameters are commonly 10–20 feet. It was estimated that at least eight collector wells would need to be installed to have the capacity to meet SEWD's maximum diversion rate of 234 cubic feet per second. Given the large number of wells and laterals and the specialized well design that would be required to meet diversion requirements, as well as the potential increase in energy needs associated with this alternative, it was eliminated from further consideration.

Sunset Weir Modifications Alternatives

Alternatives to modify the Sunset Weir instead of fully removing it were considered to facilitate continued diversion at the existing Sunset Pump Station. These alternatives included partial removal instead of removing the entire weir; constructing a channel-spanning, nature-like fishway; and constructing a technical fishway or fish ladder compatible with salmon and sturgeon passage.

Partial Weir Removal Alternative

A partial weir removal alternative could allow for improved fish passage compared to current conditions, but not to the same extent as the Proposed Project. Hydrologic modeling comparing partial and full weir removal indicated that partial weir removal would provide a minimal "sweeping velocity" benefit at the

pump station intakes and may create a temporal velocity obstacle to fish movement because fish would need to expend more energy to pass a partial weir than the fully removed weir.

Additionally, partial weir removal would not result in a smooth transition for water or sediment from upstream to downstream, which could have uncertain or unintended consequences for river stability. Hydraulic modeling also indicated that the remaining weir would have an increased chance of failure that would necessitate design changes and would have long-term maintenance requirements. Therefore, this alternative was eliminated from further consideration.

Nature-Like Fishway Alternative

With the nature-like fishway alternative, the height, or controlling elevation, of the nature-like fishway could theoretically be anywhere between the current height of the weir and a minimum height somewhere closer to the channel bed (e.g., one-half the height of the current weir). The nature-like fishway would likely consist of a base of suitably sized rock and a surface constructed with a more variable rock composition, including large boulders and implementation of preferential flow paths. In effect, the hydraulic drop at the existing weir would be spread out over the distance of the nature-like fishway and allow for fish passage.

The upstream water surface elevation and extent of the impoundment either would remain generally the same as under existing conditions or would decrease if the height of the nature-like fishway were to be lower than the existing weir. However, ultimately, the hydraulic criteria for salmon and sturgeon passage tightly constrain the overall dimensions of a nature-like fishway, depending on the amount of drop (or head loss) across the structure.

The nature-like fishway would extend both upstream and downstream of the existing weir's connection to the right bank of the river (where the existing pumps are located), necessitating the relocation of the fish screens upstream of the new nature-like fishway's crest.

Construction of the nature-like fishway was determined to be more complex and time-intensive than other weir removal or modification options because flow management would be more challenging for the channel-spanning, nature-like fishway structure and because controlled placement of a large amount of rock would be needed for creating a fish-passable installation. Because a channel-spanning, nature-like fishway would still represent some degree of passage impediment irrespective of performance, this alternative was eliminated from further consideration.

Technical Fishway Alternative

Studies have shown that technical fishways designed for fish with the swimming capabilities of adult salmonids are not conducive to sturgeon passage, as sturgeon and salmon are morphologically very different from each other. However, recommended structure dimensions, operating conditions, and velocities developed from past studies of the performance of technical fishways could theoretically be used to design and implement a sturgeon-friendly passage ladder structure. The controlling elevation of the technical fishway would be kept at approximately the same height as the current weir, and the upstream water surface elevation and extent of the impoundment would remain generally the same as under existing conditions to facilitate continued diversion at the Sunset Pumps.

For multiple reasons, implementation of a technical fishway for passage was ruled out. There is little empirical evidence and a relatively high degree of uncertainty about fishway design for and use by sturgeon. Further, this approach would lack the necessary design and modification flexibility in light of the unknowns and when considering the differing needs and configuration of a fishway for salmon versus sturgeon. Also, a technical fishway would be implemented as a bypass feature, as there would be no structural way to support the feature in the river; therefore, it is unlikely that the space or structural requirements could be accommodated within the small parcel owned by SEWD. For these reasons, this alternative was eliminated from further consideration.

Conclusion

For the reasons described previously, the above-discussed alternatives were determined not to be feasible and these alternatives were rejected from further consideration.

5.3 Alternatives to the Proposed Project

Two alternatives were identified for further evaluation in the Draft SEIR:

- No Project Alternative.
- Proposed Project with Overhead Electrical Cable Trays Alternative.

Each alternative is described below, including an evaluation of the alternative's ability to achieve the Proposed Project objectives presented in Section 5.2, "Alternatives Development and Screening." A comparison of the potential impacts of the alternatives to the impacts of the Proposed Project is presented in Section 5.4, "Comparative Analysis of Alternatives."

5.3.1 No Project Alternative

Description of Alternative

CEQA Guidelines Section 15126.6(e) requires consideration of a "no project" alternative. The purpose of this alternative is to allow the decision-makers to compare the impacts of the Proposed Project with the impacts of not approving the Proposed Project. The No Project Alternative consists of existing conditions at the time the NOP is published (the "NOP baseline" defined in Section 3.2.1, "Explanation of Baseline for this Draft SEIR") and what would be reasonably expected to occur in the foreseeable future if the Proposed Project were not approved.

Under the No Project Alternative, none of the Proposed Project elements would be constructed or operated and maintained. Specifically, the Sunset Weir would not be removed; the Sunset Pump Station replacement and upgrade would not occur; and the eroded Feather River left bank would not be stabilized. Also, the scour hole downstream of the weir would not be filled to prevent scour and provide channel stability.

The No Project Alternative would not address fish passage and, as a result, could require some change in the flow released from the Thermalito Afterbay to the Feather River to increase flows sufficient to achieve fish passage over the weir.

Long-term operations and maintenance activities associated with the Proposed Project would not occur under the No Project Alternative; however, operations and maintenance of the existing Sunset Pump Station and fish screens would continue.

Relationship to Project Objectives

The No Project Alternative would not achieve one of the Proposed Project's two goals, to accommodate passage of protected migratory fish species at the Sunset Weir (Goal 1), nor any of the specific supporting objectives associated with that goal:

1. Remove physical barriers (i.e., Sunset Weir) to upstream migration of adult green sturgeon and salmonids.
2. Provide a stable transition from upstream to downstream and restore hydraulic/riverine conditions (e.g., depth, velocity, drop heights) conducive to adult and juvenile green sturgeon and salmonid passage.
3. Minimize predation and disorientation of downstream-migrating juvenile green sturgeon and salmonids.
4. Minimize potential for impingement of juvenile green sturgeon and salmonids at the Sunset Pumps intake facility by meeting current fish screen criteria.

SEWD would continue operating the Sunset Pump Station as is and no change in conditions would occur related to the goal to preserve the overall water delivery system stability and reliability from SEWD's Sunset Pump Station.

5.3.2 Proposed Project with Overhead Electrical Cable Trays Alternative

Description of Alternative

The Proposed Project with Overhead Electrical Cable Trays Alternative would include the construction of overhead electrical cable trays instead of an underground duct bank for the SEWD Pump Station, as proposed.

Relationship to Project Objectives

The Proposed Project with Overhead Electrical Cable Trays Alternative would improve fish passage with the removal of a physical barrier (Goal 1) and would still include other components of the Proposed Project such as the replacement and upgrade of the Sunset Pump Station to preserve overall water delivery system stability and reliability with no change in SEWD's capacity and operational flexibility to deliver water to its customers (Goal 2), the installation of new fish screens at the pump station, and eroded Feather River left bank stabilization downstream of the weir with the incorporation of bioengineering techniques.

The Proposed Project with Overhead Electrical Cable Trays Alternative would achieve the Proposed Project's two goals and supporting objectives. The alternative would remove a physical barrier; would provide a stable transition from upstream to downstream and restore hydraulic/riverine conditions conducive to green sturgeon and salmonid passage; would minimize predation and disorientation of

downstream-migrating juvenile green sturgeon and salmonids; would meet hydraulic criteria for fish screens; would meet minimum submergence criteria for pumps to continue diverting water; and would minimize disruption to SEWD's customers during construction and improve sediment dynamics at the Proposed Project site.

5.4 Comparative Analysis of Alternatives

Consistent with CEQA Guidelines Section 15126.6(d), the information provided in this Draft SEIR about the alternatives is sufficient to allow for a meaningful evaluation, analysis, and comparison of the alternatives with the Proposed Project.

5.4.1 Comparison of the No Project Alternative to the Proposed Project

The No Project Alternative would not result in any short-term and temporary construction-related impacts on the physical environment or long-term impacts from constructed facilities and operation and maintenance of those facilities, which would be a reduction in impacts compared to the Proposed Project. The No Project Alternative would not disturb the archaeological resource (also a Tribal cultural resource) present on the Proposed Project site. Energy use at the Sunset Pump Station would be less than under the Proposed Project. The general protection measures, species protection measures, and SRGO mitigation measures from the Final SRGO Program EIR that would apply to the Proposed Project to reduce the Proposed Project's effects would not apply to the No Project Alternative.

However, the No Project Alternative would not achieve the Proposed Project's goal to accommodate fish passage at Sunset Weir (Goal 1) and supporting objectives. Therefore, the No Project Alternative would result in more severe impacts on the movement of resident and migratory wildlife species than the Proposed Project. The No Project Alternative would not result in a net gain of sensitive riparian natural communities, which would be created with the Proposed Project. Additionally, the Feather River left bank erosion would continue to occur with the No Project Alternative, potentially affecting extra orchard land designated as Prime Farmland. Scour downstream of the Sunset Weir in the Feather River would also continue to be an issue.

5.4.2 Comparison of the Proposed Project with Overhead Electrical Cable Trays Alternative to the Proposed Project

Similar to the Proposed Project, the Proposed Project with Overhead Electrical Cable Trays Alternative would result in short-term and temporary construction-related impacts and impacts from constructed facilities and operation and maintenance of those facilities from the removal of the Sunset Weir, Sunset Pump Station replacement and upgrade, installation and operation of new fish screens at the Sunset Pump Station, and eroded Feather River left bank stabilization downstream of the weir with the incorporation of bioengineering techniques.

The Proposed Project with Overhead Electrical Cable Trays Alternative would reduce the footprint of excavation required for construction of the electrical facilities compared to the Proposed Project. With an overhead cable tray and a reduction in total ground disturbance, overall impacts on cultural and Tribal cultural resources potentially would be less than those of the Proposed Project. A decrease in the footprint

of the excavation compared to the Proposed Project would reduce the chances of encountering known and previously unrecorded cultural and Tribal cultural resources.

The Proposed Project with Overhead Electrical Cable Trays Alternative would increase long-term maintenance as compared to the Proposed Project because the cable tray would require cleaning, upkeep, and inspection. In addition, the alternative may result in an increase in safety risks because of the exposed electrical cables and support structure, both of which could be damaged from floods, storms, or other debris and could put workers at risk of injury. The exposed cable tray structure would also be more susceptible to vandalism and may present an obstruction to site access.

Therefore, the Proposed Project with Overhead Electrical Cable Trays Alternative would achieve both of the goals and their supporting objectives of the Proposed Project and would reduce some physical environmental impacts, but it would result in increased maintenance-related and safety impacts.

Table 5-1 presents a comparison of the environmental impacts of the Proposed Project, the No Project Alternative, and the Proposed Project with Overhead Electrical Cable Trays Alternative. In the resource sections of Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures," the potential impacts of implementation of the Proposed Project were evaluated for two impact types: construction activities and constructed facilities and operations and maintenance activities. In some cases, the significance determination varied across impact type (e.g., less than significant with general protection measures for construction activities, but less than significant for constructed facilities and operation and maintenance). The impacts of the alternatives are therefore compared against the most conservative significance determination for each impact threshold, to be representative of the potential impact of implementing the Proposed Project as a whole. The magnitude or intensity of each alternative's impacts compared to the Proposed Project is then noted with "+" for increased, "-" for reduced, or no change to the impact determination if it is the same as the Proposed Project. These comparative statements are provided to designate the degree to which individual impacts of alternatives may vary from those of the Proposed Project, but they are not intended to suggest that the ultimate impact conclusion (e.g., less than significant) for the alternative would necessarily change from that of the Proposed Project.

TABLE 5-1
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT AND ALTERNATIVES

Resource Topic and Impact	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.4 Agriculture			
3.4-1: Implementation of the Proposed Project could convert Special Designation Farmland to non-agricultural use or conflict with existing zoning for agricultural use or a Williamson Act contract.	LTS	NI	LTS
3.4-2: Implementation of the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Special Designation Farmland to non-agricultural use.	LTSG	LTSG+	LTSG

Resource Topic and Impact	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.5 Air Quality and Greenhouse Gas Emissions			
3.5-1: Implementation of the Proposed Project could conflict with or obstruct implementation of an applicable air quality plan.	LTSG	NI	LTSG
3.5-2: Implementation of the Proposed Project could 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.	LTSM	NI	LTSM
3.5-3: Implementation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.	LTSM	NI	LTSM
3.5-4: Implementation of the Proposed Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTSG	NI	LTSG
3.5-5: Implementation of the Proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	LTS	NI	LTS
3.6 Biological Resources–Terrestrial			
3.6-1: Implementation of the Proposed Project could adversely affect habitat for special-status plant species.	LTSG/S	NI	LTSG/S
3.6-2: Implementation of the Proposed Project could adversely affect habitat for special-status wildlife species.	LTSG/S	NI	LTSG/S
3.6-3: Implementation of the Proposed Project could result in adverse effects on riparian habitat or sensitive natural communities.	LTSG	NI	LTSG
3.6-4: Implementation of the Proposed Project could result in adverse effects on State and federally protected wetlands through direct removal, hydrological interruption, or other means.	LTSG/S	NI	LTSG/S
3.6-5: Implementation of the Proposed Project could interfere with the movement of native resident and migratory wildlife species.	LTSG/S	LTSG/S+	LTSG/S
3.6-6: Implementation of the Proposed Project could conflict with local policies or ordinances protecting biological resources.	LTSG/S	NI	LTSG/S
3.7 Biological Resources–Aquatic			
3.7-1: Implementation of the Proposed Project could result in substantial adverse effects on special-status fish species directly, or indirectly through habitat modifications.	LTSG/S	NI	LTSG/S
3.7-2: Implementation of the Proposed Project could result in substantial adverse direct effects on the movement of native resident or migratory fish.	LTSG/S	LTSG/S+	LTSG/S
3.8 Cultural Resources			
3.8-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.	NI	NI	NI
3.8-2: Implementation of the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	SU	NI	SU-
3.8-3: Implementation of the Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries.	SU	NI	SU-

Resource Topic and Impact	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.9 Energy			
3.9-1: Implementation of the Proposed Project could result in substantial inefficient, wasteful, or unnecessary long-term consumption of energy resources or changes to hydropower generation.	LTS	NI	LTS
3.9-2: Implementation of the Proposed Project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	LTS	NI	LTS
3.10 Hazards and Hazardous Materials			
3.10-1: Implementation of the Proposed Project could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a significant hazard to the public or the environment.	LTSG	NI	LTSG
3.10-2: Ground-disturbing activities for construction of the Proposed Project could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials.	LTSM	NI	LTSM
3.10-3: Implementation of the Proposed Project could interfere with emergency response access or with an adopted emergency response or evacuation plan.	LTS	NI	LTS
3.10-4: Implementation of the Proposed Project could create vector habitat that would pose a significant public health hazard.	LTS	NI	LTS
3.11 Hydrology and Water Quality			
3.11-1: Implementation of the Proposed Project could result in the release of pollutants into surface water and/or groundwater that could violate water quality standards or waste discharge requirements, substantially degrade water quality, or obstruct implementation of a water quality control plan.	LTSG	NI	LTSG
3.11-2: Implementation of the Proposed Project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a project may impede sustainable groundwater management of the basin or obstruct implementation of a sustainable groundwater management plan.	LTSG	NI	LTSG
3.11-3: Implementation of the Proposed Project could substantially alter the existing drainage pattern of a 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 that could result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.	LTSG	LTSG+	LTSG
3.12 Recreation			
3.12-1: Implementation of the Proposed Project could directly impair, degrade, or eliminate recreational resources, facilities, and opportunities.	LTS	NI	LTS
3.12-2: Implementation of the Proposed Project could alter recreational resources or facilities or require the construction or expansion of recreational facilities that could result in environmental impacts.	LTSG	NI	LTSG
3.12-3: Implementation of the Proposed Project could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated.	LTS	NI	LTS

Resource Topic and Impact	Significance After Mitigation: Proposed Project	Significance After Mitigation: No Project Alternative	Significance After Mitigation: Proposed Project with Overhead Electrical Cable Trays Alternative
3.13 Tribal Cultural Resources			
3.13-1: Implementation of the Proposed Project could cause a substantial adverse change in the significance of a Tribal cultural resource, as defined in PRC Section 21074.	SU	NI	SU-
3.14 Utilities and Service Systems			
3.14-1: Implementation of the Proposed Project could require or result in the relocation or construction of new or expanded water, stormwater drainage, or electric power facilities, the construction or relocation of which could cause significant environmental effects.	LTS	NI	LTS
3.14-2: Implementation of the Proposed Project could result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	NI	LTS
3.14-3: Implementation of the Proposed Project could be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs and could fail to comply with federal, State, and local statutes and regulations related to solid waste.	LTS	NI	LTS

Notes: LTS = less than significant; LTSG = less than significant with implementation of the general protection measures; LTSG/S = less than significant with implementation of the general protection measures and species protection measures; LTSM = less than significant with implementation of the SRGO mitigation measures; NI = no impact

- = Impact would be less severe than under the Proposed Project; + = Impact would be more severe than under the Proposed Project

Source: Data compiled by Environmental Science Associates in 2025

5.5 Environmentally Superior Alternative

CEQA requires identification of the environmentally superior alternative—that is, the alternative that has the least significant impacts on the environment. CEQA Guidelines Section 15126.6(e)(2) states: "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

The No Project Alternative would not result in any construction or long-term operations or maintenance impacts. However, the No Project Alternative would not achieve the goal to accommodate fish passage at Sunset Weir and supporting objectives of the Proposed Project. Under the No Project Alternative, passage of threatened migratory fish species at the Sunset Weir would continue to be obstructed by the Sunset Weir and subject to predation, disorientation, and impingement. The No Project Alternative would not result in a net gain of sensitive riparian natural communities, which would be created with the Proposed Project. In addition, downstream scour and channel instability would continue to be issues, potentially affecting Special Designation Farmland.

The Proposed Project with Overhead Electrical Cable Trays Alternative would meet the goals and supporting objectives of the Proposed Project. As shown in Table 5-1, and as discussed in the alternatives analysis above, the Proposed Project with Overhead Electrical Cable Trays Alternative would slightly reduce the magnitude of construction-related impacts compared to the Proposed Project, because of the reduced ground disturbance required for construction of the electrical facilities compared to the Proposed

Project. Decreased excavation would reduce potential impacts on potential subsurface cultural and Tribal cultural resources; therefore, the Proposed Project with Overhead Electrical Cable Trays Alternative is identified as the environmentally superior alternative. However, this alternative would increase long-term maintenance compared to the Proposed Project because the cable trays would require cleaning, upkeep, and inspection. In addition, the Proposed Project with Overhead Electrical Cable Trays Alternative may result in an increase in safety risks because of the exposed electrical cables and support structure, both of which could be damaged from floods, storms, or other debris and could put workers at risk of injury. The exposed cable tray structure would also be more susceptible to vandalism and may present an obstruction to site access.

CHAPTER 6
List of Preparers and Persons Consulted

6.1 Lead Agency

California Department of Water Resources

Tyler Anthony	Senior Environmental Scientist, Land Stewardship Program, Division of Multibenefit Initiatives
Amy Bailey	Environmental Program Manager, Riverine Stewardship Section Manager, Division of Multibenefit Initiatives
Rachel Ballanti	Program Manager II, Delta Resiliency Branch, Division of Multibenefit Initiatives
Randy Beckwith	Supervising Engineer, Division of Multibenefit Initiatives
Jack Christy	Engineering Geologist, Statewide Restoration Initiatives Branch, Division of Multibenefit Initiatives
Mariko Falke	Executive Tribal Liaison, Office of Tribal Affairs
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6.2 Sutter Extension Water District

Lynn Phillips	General Manager

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CHAPTER 7
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No references cited in this chapter.

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Appendix A

Notice of Preparation and Comments on the Notice of Preparation

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NOTICE OF PREPARATION

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT

CALIFORNIA DEPARTMENT OF WATER RESOURCES

To: Responsible and Trustee Agencies and Interested Parties

The California Department of Water Resources (DWR) proposes the Sunset Weir and Pumps Fish Passage Project (Proposed Project), which would consist of the removal of Sunset Weir and the restoration of unimpeded flow and fish passage conditions for the Feather River channel; replacement of the Sunset Pump Station to operate at a lower surface water elevation; rehabilitation of existing pump discharge pipelines; installation and operation of new fish screens at the Sunset Pump Station; bank stabilization downstream of the weir; and modification of up to seven upstream irrigation diversions (within the existing weir backwater area) to address lowered water surface elevations after weir removal. The Proposed Project is located on the Feather River, approximately two miles southeast of Live Oak in Sutter County, California (see **Figure 1**). The weir is operated and maintained by the Sutter Extension Water District (SEWD) to maintain hydraulic head for SEWD's Sunset Pump Station. SEWD currently operates the Sunset Pump Station to supplement flows from Thermalito Afterbay, made necessary due to lack of capacity in the Sutter Butte Main Canal. The Pump Station also acts as a buffer to offset periodic flow delivery inconsistencies in the Main Canal and ensure that they can meet obligations to customers.

The final grade of the restored Feather River channel would be designed to provide a stable transition from upstream to downstream, reduce scour downstream, and provide channel stability. The fish passage component of the Proposed Project would be achieved by removing the weir and restoring the channel to match the natural grade. Passage improvements are intended to benefit all species; however, designs would focus on passage for Central Valley fall-run and spring-run Chinook salmon, Central Valley steelhead, and southern distinct population segment green sturgeon.

The materials comprising the weir would be degraded (or removed) and the weir footprint would be restored to match the existing natural channel bed. Suitable portions of the weir material and material imported for the construction of temporary access and work areas may be used to stabilize the banks and partially backfill scoured areas immediately downstream of the current weir configuration, e.g., the deep hole in the river at the downstream edge of the weir. Following the removal of the weir, the banks adjacent to the weir may be graded so the channel cross-section is similar to the geometry of the channel upstream and downstream. Disturbed areas at the channel banks, and other areas determined to be at risk of erosion following removal of the weir, would be protected with rock slope protection. All other areas disturbed by construction and above the channel waterline would be protected by the establishment of non-woody vegetation.

Additionally, the Sunset Pump Station would be substantially modified such that the pumps operate optimally under free-flowing riverine conditions and allow SEWD to continue to divert water and meet their existing water supply obligations. This would involve replacing the pumps and replacing or slip-lining associated piping (as needed), constructing a new wet well and pump support structure, and installing contemporary fish screens that meet current state and federal fish protection criteria.

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See **Figure 2** for an overview of the main project site. SEWD would operate and maintain the modified Sunset Pump Station, fish screens, and related appurtenances into the future. To construct the facilities, a temporary cofferdam would be installed within the Feather River, dewatering of the cofferdam will occur (with discharge of pumped flows returned to the Feather River), and a temporary pumping system would be installed within the Feather River and discharge to the Main Canal in order to maintain uninterrupted service to SEWD's customers.

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15163, a Supplemental Environmental Impact Report (SEIR) will be prepared to evaluate whether new significant effects would result from implementation of the Sunset Weir and Pumps Fish Passage Project, compared to the environmental impacts disclosed in the Program Environmental Impact Report (PEIR) prepared by the State Water Resources Control Board (State Water Board) for the Statewide Restoration General Order (SRGO) for Clean Water Act Section 401 Water Quality Certification and Waste Discharge Requirements for Restoration Projects Statewide adopted August 16, 2022.

The PEIR evaluates the potential impacts of various types of restoration projects covered by the SRGO. The Proposed Project would meet the SRGO PEIR definition of a "Restoration Project," as it would result in a net increase in aquatic or resource functions through implementation of relevant protection measures listed in the SRGO PEIR. In addition, removal of the Sunset Weir and rehabilitation of the Feather River channel for improved fish passage, as well as installing contemporary fish screens that meet current state and federal fish protection criteria, is within the eligible projects type "Improvements to Stream Crossings and Fish Passage" as described in the SRGO PEIR.

The SEIR will evaluate potential project-specific and cumulative environmental effects associated with the Proposed Project, as well as alternatives to the Proposed Project, to the extent necessary to make the SRGO PEIR adequate for the Proposed Project. The SEIR will include evaluations to identify if the Proposed Project would have potentially significant impacts on environmental resources including but not limited to agriculture and forestry resources; air quality; biological resources; energy; greenhouse gas emissions; geology and soils; hydrology and water quality; hazards and hazardous materials; recreation; tribal cultural resources; and utilities and service systems. In addition, the SEIR will describe how the Proposed Project is consistent with DWR's Climate Action Plan.

DWR is soliciting the views of interested persons, organizations, and agencies regarding the scope and content of the environmental information in connection with the Proposed Project. In addition, each responsible agency will provide DWR with specific detail about the scope, significant environmental issues, reasonable alternatives, and mitigation measures related to each responsible agency's area of statutory responsibility that must be explored in the SEIR. In accordance with CEQA Guidelines Section 15082(b)(1)(B), responsible and trustee agencies should indicate their respective level of responsibility for the Proposed Project in their response.

This Notice of Preparation will be circulated for a 30-day public notice period beginning August 1, 2024, and ending August 30, 2024. At the end of the public notice period, DWR will consider all written comments received from interested persons, organizations, and agencies in preparing the environmental analysis to be included in the final EIR.

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Please submit your written comments on the scope of the EIR at the earliest possible date, but no later than 5 p.m. on Tuesday, August 30, 2024, to:

California Department of Water Resources
Attention: Kevin Marr, Environmental Scientist
P.O. Box 942836
Sacramento, CA 94236-0001

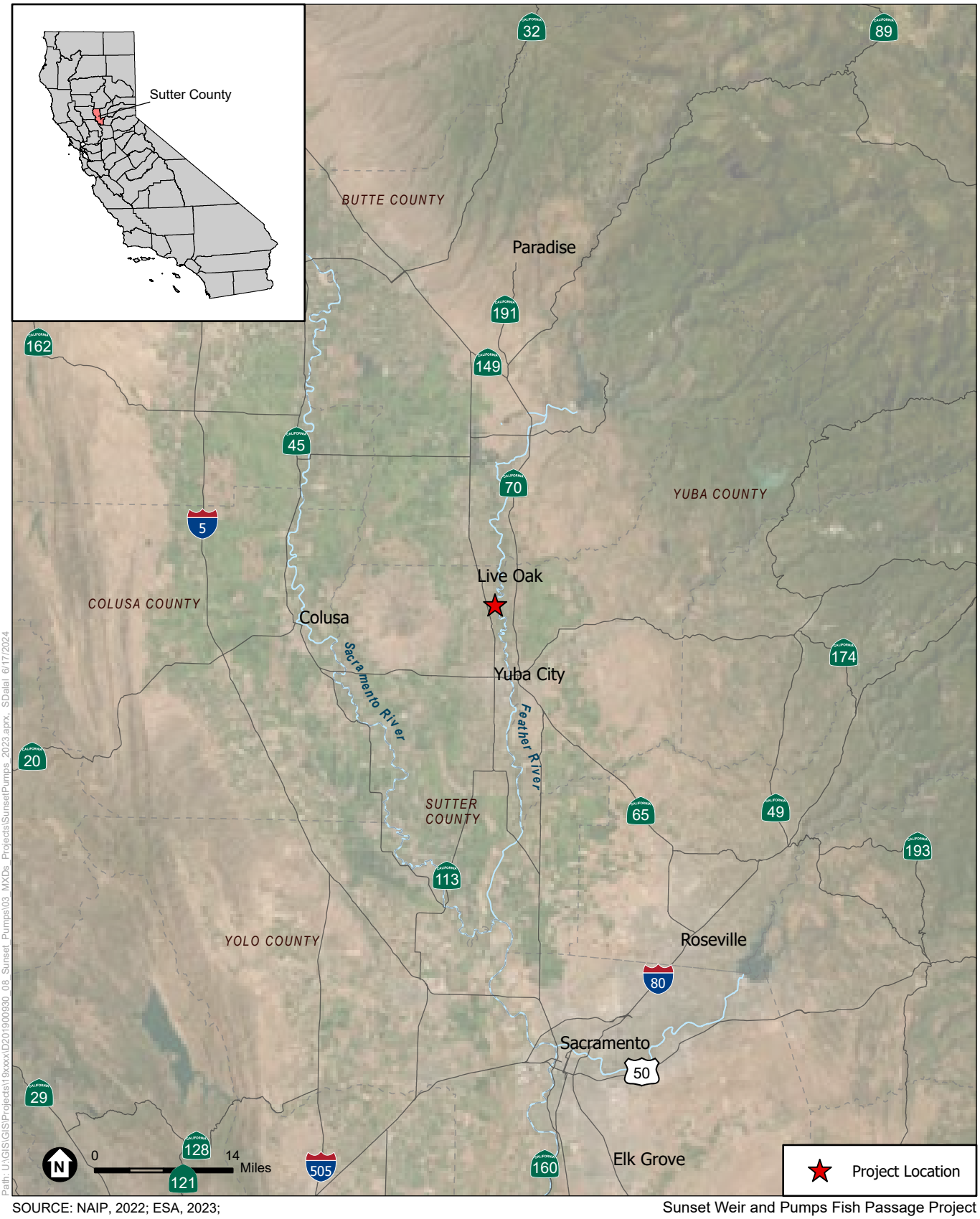
Email address: Kevin.Marr@water.ca.gov
Subject: Comments on NOP for SEIR for Sunset Weir and Pumps Fish Passage Project

All comments received will be made available for public review in their entirety, including the names and addresses of the respondents. Individual respondents may request that their name and/or address be withheld from public disclosure. DWR will honor such requests to the extent allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. DWR will post NOP comment letters in their entirety on the DWR web page for the Proposed Project at https://water.ca.gov/News/Public-Notices.

Scoping Meeting

A public scoping meeting will be held to receive written and oral input on the scope and content of the SEIR. The scoping meeting will be held on Thursday, August 15, 2024, from 5:30 p.m. to 7:30 p.m. at the Yuba City Council Chambers, 1201 Civic Center Boulevard, Yuba City, CA 95993. The meeting can also be attended virtually; to join virtually, please register at the following link: https://bit.ly/SunsetWeirScopingMtg.

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SOURCE: NAIP, 2022; ESA, 2023;

Sunset Weir and Pumps Fish Passage Project

Figure 1
Regional Location

Prepared by: ESA

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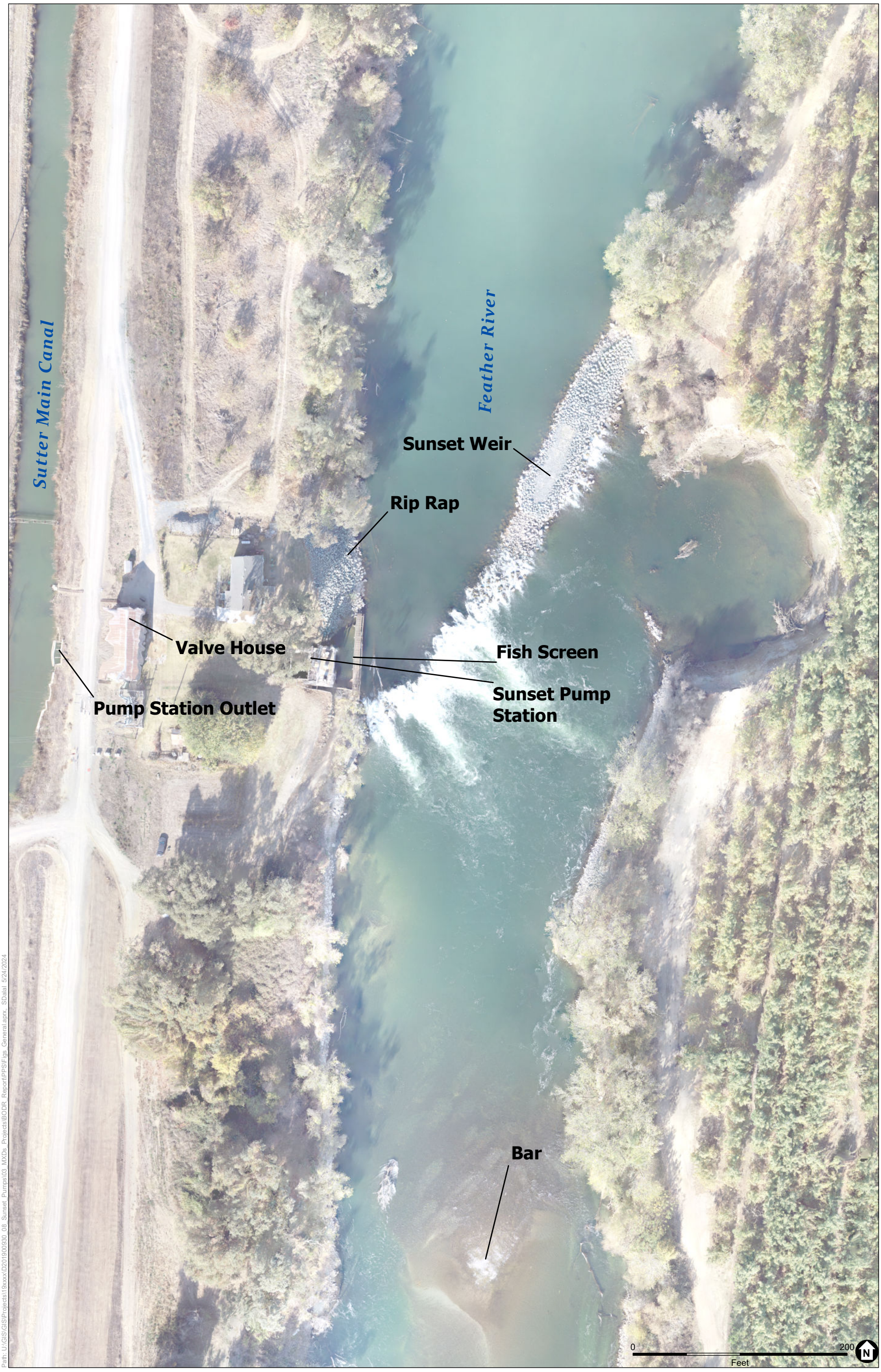


Figure 2
Sunset Weir - Existing Conditions Overview

ESA

Marr, Kevin@DWR

From: Marr, Kevin@DWR
Sent: Friday, August 30, 2024 8:06 AM
To: Francis Coats
Subject: RE: Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project

Hi Francis,
"interested parties" means anybody interested in the project will receive a notice of the draft SEIR when it is available for public review. Since you commented on the NOP, we will be sure to notice you when the draft SEIR is ready for public review.

Sincerely,
Kevin

From: Francis Coats <fecoats@msn.com>
Sent: Thursday, August 29, 2024 6:15 PM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Subject: Re: Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project

Kevin: what does DWR mean by "interested parties?" The Sutter Extension Water District; California Department of Fish and Wildlife; Sutter Butte Flood Control Agency? Central Valley Flood Control Board, Sacramento & San Joaquin Drainage District, USACE, water users of SEWD, people who fish or otherwise use the river for recreation, who live on the dry side of the levee.
From the notice of preparation I had understood that input from the general public as well as from recognized stake-holders was solicited.
From the lack of discussion of the effect of the proposed work on public access to and use of the river and its banks, it looked to me like public comments are needed.
Francis Coats,
3492 Caminito Avenue Yuba City CA 95991
Fecoats@msn.com
(530) 701-6116

From: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Sent: Wednesday, August 28, 2024 1:45:20 PM
To: Francis Coats <fecoats@msn.com>
Subject: RE: Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project

Hello,
Thank you for your comments on DWR's Notice of Preparation (NOP) to prepare a Supplemental Environmental Impact Report (SEIR) for the Sunset Weir and Pumps Fish Passage Project. We are only soliciting comments and interested parties at this time. We have recorded your comments, and we will incorporate consideration of your comments in the draft SEIR. There will be additional opportunities to comment on the project when the draft document is made available for public review.

Please submit any further comments in writing by 5:00 PM on August 30, 2024.

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

From: Francis Coats <fecoats@msn.com>
Sent: Sunday, August 25, 2024 10:52 AM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Subject: Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project

You don't often get email from fecoats@msn.com. Learn why this is important

Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project (comwaterment period open to August 30, 2024, to be sent to Kevin.Marr@water.ca.gov

The California Department of Water Resources has given notice that it will prepare a supplemental environmental impact report for the Sunset Weir and Pumps Fish Passage Project. The project involves the removal of a low dam, or weir, across the Feather River near Paseo Road between Yuba City and Live Oak, together with removing and replacing fish screens, pumping plant and pipelines to move water from the Feather River into the Sutter Extension Water Districts Canal, and bank re-grading and bank stabilization. The pumps and pipelines are on an approximately 1 acre parcel on the right bank of the Feather River held in the name of the Setter Extension Water District, a public agency of the State of California. The anticipated work will foreseeably affect the public's ability to access and use the Feather River (a navigable river) and its temporarily dry bed and banks below ordinary high water mark, and lands subject to flooding in an ordinary year from the overflow of the Feather River; and, foreseeably will affect the public's ability to fish from and on the state-owned land on the right or west bank of the Feather River where the pumping plant and pipelines will be located.

Access to the SEWD parcel from the eastern end of Paseo Road, a Sutter County public road, is by walking, bicycle riding or driving along the levee crown road on the east levee of the Feather River, held in the name of the Sutter Butte Flood Control Agency, and agency of the State of California, a distance of about a quarter mile. There is no other convenient river access in the near vicinity.

For purposes of this discussion it is useful to focus on the bank fisher as well as other recreational users of the riverbank: a person dependent upon surface access to the riverbank, and on the ability to walk up and down the river bank from the point of access to the riverbank. Note that the bank fisher does not need to own a boat, trailer, tow vehicle, to maintain these, and to have a place to store them when not in use. Accommodating the bank fisher is necessary to accommodate the needs of disadvantage persons and communities.

California, in addition to the long-standing public policy favoring public access to the shore (inland as well as coastal), also has the navigable easement, the public trust doctrine and the public right to fish on state-owned land, and an "Access for All" program, further acknowledging the public policy of the state in favor of public access to navigable waters and state-owned land.

The Feather River is a water susceptible to navigation in small craft for recreational purposes, and therefore is subject to the public right of navigation; and, this right of navigation includes the rights to fish, hunt, boat and engage in other forms of recreation ((People ex rel. Baker v. Mack (1971) 19 Cal.App.3d 1040 [97 Cal.Rptr. 448]). These rights extend to the temporarily dry bed and banks of the water and to lands subject to flooding from its overflow in an ordinary year (State of California v. Superior Court (Lyon) (1981) 29 Cal.3d 210 [172 Cal.Rptr. 696, 625 P.2d 239]; (State v. Superior Court of Placer County (Fogerty) (1981) 29 Cal.3d 240 [172 Cal.Rptr. 713, 625 P.2d 256]). The public trust doctrine extends to protect the public's interest in access to and use of these waters ((Nat'l Audubon Soc'y v. Superior Court (1983) 33 Cal.3d 419 footnote 17 [189 Cal.Rptr. 346, 658 P.2d 709]).

The public has the right to fish from and on state-owned lands, excepting only those lands being used by the government for a governmental purpose incompatible with public fishing – for example a prison or a mental hospital (section 25 article I, California Constitution; California v. San Luis Obispo Sportsman's Assn. (1978) 22 Cal.3d 440 [149 Cal.Rptr. 482, 584 P.2d 1088]; "California's Constitutional Right to Fish, (2021), Coats & Bork, Lewis & Clark Environmental Review, Vol. 51 No. 4.). This right includes the right to do those things necessary and convenient to enjoy the right ((Callahan v. Martin (Cal. 1933) 24 P.2d 866.). Land held in the name of local agency is state-owned land held for the benefit of the state (Town of Atherton v. Superior Court, 159 Cal.App.2d 417, 428 [324 P.2d 328] and Vagim v. Board of Supervisors, 230 Cal.App.2d 286, 294 [40 Cal.Rptr. 760].

Under the public trust doctrine, a state agency considering a decision which may affect a public trust interest, must first consider the effect of the proposed decision on the public trust, avoiding so far as feasible any negative effect, and provide this consideration in a public transparent process facilitating public participation in the decision-making (Nat'l Audubon Soc'y v. Superior Court (1983) 33 Cal.3d 419 footnote 17 [189 Cal.Rptr. 346, 658 P.2d 709]; Zack's, Inc. v. City of Sausalito (2008) 165 Cal.App.4th 1163 [81 Cal.Rptr.3d 797]; (San Francisco Baykeeper, Inc. v. State Lands Com. (2015) 242 Cal.App.4th 202 [194 Cal.Rptr.3d 880]).

The proposed action will foreseeably affect the banks of the Feather River, possibly making it inconvenient, dangerous or impossible to walk along the bank of the river and/or access the river at the SEWD parcel. Regrading the river bed and/or banks may affect the public's ability to walk along the bank or fish from the bank, or otherwise use the bank for recreation. Bank stabilization may include installation of rip-rap, which may make it difficult or impossible to walk along the bank. Depending on their design and installation, fish screens, pumps and pipelines may themselves obstruct the passage of the public along the bank, or fences erected to protect the installations may obstruct the passage of the public.

At this time the SEWD posts "no-trespassing" signs on its parcel, interfering with the public's right to fish on and from the property, and to use the property for access to the river and its banks, and then walk up or down the river to find another place to fish or otherwise enjoy recreation. A look at the property reveals that it includes open lawns and house (possibly rented out by SEWD?) which appear to feasibly permit public access to the river across the parcel.

For purposes of preparing the supplemental environmental document, the entire river, its banks below ordinary high-water mark and lands subject to annual flooding from its overflow should be treated as a recreational resource; and, the anticipated effect of the project on that recreational resource should be discussed.

For purposes of meeting its obligations under the public trust doctrine, the department should consider and discuss in the supplemental environmental documents or some other public process the effect of the proposed project on the public's access to and use of the Feather River including its temporarily dry bed and

banks below ordinary high water mark and land subject to annual flowing from its overflow, avoiding so far as feasible any adverse effect on this access and use, and providing this consideration in a public manner facilitating public participation in the decision-making.

If it is necessary to obstruct public access along the riverbank where fish screens, pumps and pipelines are installed, bank access at the upstream and downstream sides of the SEWD parcel, with a walking rout around the installations, may be a feasible alternative to simply obstructing the public's travel along the bank below ordinary high-water mark.

Allowing the public to drive onto and park on the SEWD parcel may be feasible.

If driving to and parking on the SEWD parcel is not feasible, then allowing the public to bicycle or walk to and across the parcel certainly is feasible.

Incorporating a safe walking path in riverbed reforming and bank stabilization may be feasible.

Allowing people to fish from and on the SEWD parcel; or to cross the parcel for access to the riverbank, is feasible.

Marr, Kevin@DWR

From: Marr, Kevin@DWR
Sent: Tuesday, August 6, 2024 12:45 PM
To: Francis Coats
Subject: RE: Sunset Weir; Social Justice

Thank you Francis for the phone call and sending me your comments. I have recorded the comments and saved them to our files. We will incorporate addressing your comments in the draft SEIR, and you will have another opportunity to comment on the draft SEIR once it is prepared and we send it out for public comment. If you have any more comments, please submit them to me by 5:00 PM on 8/30/24.

Thank you!

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

From: Francis Coats <fecoats@msn.com>
Sent: Monday, August 5, 2024 3:54 PM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Subject: Sunset Weir; Social Justice

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Poorer people fish from the bank because they don't have the money for a boat, trailer, tow vehicle, a place to store the same.
Fishing from the bank is an inexpensive and a traditional pastime, and diet supplement, for Black, Chicano, Latine, Chinese, Japanese, Vietnamese, Hmong people as well as White Americans. Bank fishing is a pedestrian pastime - you have access to the bank for so far as you can reasonably walk from the access point. Losing an access point loses riverbank access up and down river from the access point.
Social justice requires providing convenient public access to the Feather River at the Sunset Weir site in connection with removal of the Sunset Weir and related work.
Francis Coats; 3392 Caminito Avenue, Yuba City, Ca 95991; fecoats@msn.com; (530) 701-6116

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

Marr, Kevin@DWR

From: Francis Coats <fecoats@msn.com>
Sent: Saturday, August 3, 2024 9:28 AM
To: Marr, Kevin@DWR
Subject: Re: Re Sunset Weir project, Feather River, Sutter County, California

Follow Up Flag: Flag for follow up
Flag Status: Flagged

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Also note that the SEWD canal is also a navigable water, and should be open for recreational use, subject to appropriate regulation for public health and safety.
There was serious discussion of lining the canal between Thermalito and the pumping plant and removing the weir. Is that option on the table? If not, why not?
The weir interrupts both fish passage and boat passage between Live Oak and point upstream and Yuba City downstream..
The SEWD parcel is the only convenient access to the right bank if the Feather between Live Oak and Yuba City. There used to be access at Paseo Road but the county vacated that two summers ago. Probably illegally as the road had a present and prospective use in providing access for fishing and other recreational uses, but the county formally vacated it. There is access via Morse Road, then south along the Sutter Butte Flood Control Agency levee to the Morse Road Unit of the Feather River Wildlife Area, but: CDF&W does not disclose the existence of this unit or access to it on its website; the neighboring land-owners post no trespassing signs and otherwise obstruct this access; and, it is a long walk for someone transporting a small boat.
I'm summary the potential public access at the SEWD pumping plant and weir are very important for public bank fishing up and down the west bank and for kayaking and canning up and down the Feather. The state should take this opportunity to stop its improper obstruction of public access and use.
Francis E. Coats, 3492 Caminito Avenue, Yuba City CA 95991 fecoats@msn.com, (539) 701-6116

Sent from my Verizon, Samsung Galaxy smartphone
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From: Francis Coats <fecoats@msn.com>
Sent: Saturday, August 3, 2024 9:07:10 AM
To: kevin.marr@water.ca.gov <kevin.marr@water.ca.gov>
Subject: Re Sunset Weir project, Feather River, Sutter County, California

Please note that the Feather River is a navigable river in the vicinity of the Sutter Extension Water District's Sundet Weir and pumping plant; and therefore, the public has the right to be on the river including the banks of the river below ordinary annual high water mark, and there engage in hunting, fishing and other recreational activity. Further, the state is obligated to consider the effect of a proposed decision on that public trust interest (public access to and use of the Feather River and it's banks, and the SEWD canal), avoiding so far as feasible any interference with the public trust interest, and providing this consideration in a public transparent process.

Marr, Kevin@DWR

From: Marr, Kevin@DWR
Sent: Thursday, August 29, 2024 1:58 PM
To: Minkel, Peter G.@Waterboards
Cc: Yang, Houa@Waterboards; WB-RB5S-chron; State.Clearinghouse@opr.ca.gov
Subject: RE: COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT, SCH#2024080016, SUTTER COUNTY

Hello,
Thank you for your comments on DWR's Notice of Preparation (NOP) to prepare a Supplemental Environmental Impact Report (SEIR) for the Sunset Weir and Pumps Fish Passage Project. We are only soliciting comments and interested parties at this time. We have recorded your comments, and we will incorporate consideration of your comments in the draft SEIR. There will be additional opportunities to comment on the project when the draft document is made available for public review.

Please submit any further comments in writing by 5:00 PM on August 30, 2024.

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

From: Minkel, Peter G.@Waterboards <Peter.Minkel2@waterboards.ca.gov>
Sent: Thursday, August 29, 2024 12:01 PM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Cc: Yang, Houa@Waterboards <Houa.Yang@waterboards.ca.gov>; WB-RB5S-chron <RB5S-chron@Waterboards.ca.gov>; State.Clearinghouse@opr.ca.gov
Subject: COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT, SCH#2024080016, SUTTER COUNTY

You don't often get email from peter.minkel2@waterboards.ca.gov. Learn why this is important

Kevin,

Enclosed are our comments for your Project. Please email if you have any questions.

Pete

Peter Minkel
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

29 August 2024

Kevin Marr
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001
kevin.marr@water.ca.gov

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT, SCH#2024080016, SUTTER COUNTY

Pursuant to the State Clearinghouse's 1 August 2024 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Sunset Weir and Pumps Fish Passage Project, located in Sutter County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Marr, Kevin@DWR

From: Marr, Kevin@DWR
Sent: Friday, August 30, 2024 8:08 AM
To: Dale Whitmore
Subject: RE: Comments on NOP for the SEIR for Sunset Weir and Pumps Fish Passage Project

Hello,
Thank you for your comments on DWR's Notice of Preparation (NOP) to prepare a Supplemental Environmental Impact Report (SEIR) for the Sunset Weir and Pumps Fish Passage Project. We are only soliciting comments and interested parties at this time. We have recorded your comments, and we will incorporate consideration of your comments in the draft SEIR. There will be additional opportunities to comment on the project when the draft document is made available for public review.

Please submit any further comments in writing by 5:00 PM on August 30, 2024.

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

From: Dale Whitmore <dwhitmore0404@gmail.com>
Sent: Thursday, August 29, 2024 7:28 PM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Subject: Comments on NOP for the SEIR for Sunset Weir and Pumps Fish Passage Project

You don't often get email from dwhitmore0404@gmail.com. Learn why this is important

The Feather River is a navigable river in the vicinity of the Sutter Extension Water Districts Sunset Weir and pumping plant. The public has the right to be on the river including the banks of the river below ordinary annual high water mark, for hunting fishing and other recreational activity. The state is obligated to consider the effect of a proposed decision on that public trust interest (public access to and use of the Feather River and it's banks, and the SEWD canal). The project should provide public access to the river by the public.

Thank you,
Dale Whitmore, 503 Tulsa Court,
Yuba City CA 95991
530 635-0046
dwhitmore0404@gmail.com

Marr, Kevin@DWR

From: Marr, Kevin@DWR
Sent: Friday, August 30, 2024 3:54 PM
To: Robbins, Jordan@CVFPB (she/her)
Cc: Silva, Jamie@CVFPB
Subject: RE: CVFPB Comment on SCH# 2024080016

Hello,
Thank you for your comments on DWR's Notice of Preparation (NOP) to prepare a Supplemental Environmental Impact Report (SEIR) for the Sunset Weir and Pumps Fish Passage Project. We are only soliciting comments and interested parties at this time. We have recorded your comments, and we will incorporate consideration of your comments in the draft SEIR. There will be additional opportunities to comment on the project when the draft document is made available for public review.

Please submit any further comments in writing by 5:00 PM on August 30, 2024.

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

From: Robbins, Jordan@CVFPB (she/her) <Jordan.Robbins@cvflood.ca.gov>
Sent: Friday, August 30, 2024 2:23 PM
To: Marr, Kevin@DWR <Kevin.Marr@water.ca.gov>
Cc: state.clearinghouse@opr.ca.gov; Silva, Jamie@CVFPB <Jamie.Silva@cvflood.ca.gov>
Subject: CVFPB Comment on SCH# 2024080016

Hi Kevin,

Please see the attached for the Central Valley Flood Protection Board's Comments for the Notice of Preparation of the Supplemental Environmental Impact Report, Sunset Weir and Pumps Fish Passage Project, SCH# 2024080016, Sutter County. Please let me know if there are any questions.

Thank you,
Jordan Robbins

Jordan Robbins
Senior Environmental Scientist
Environmental Services Section
Central Valley Flood Protection Board

Phone: (916) 524-3454
Jordan.Robbins@CVFlood.ca.gov
3310 El Camino Avenue, Suite 170
Sacramento, CA 95821

Docusign Envelope ID: A1EBFD0C-1EB6-44EA-A3F3-E17E994BC31A

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY **GAVIN NEWSOM**, GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Ste. 170
SACRAMENTO, CA 95821
(916) 574-0609

August 30, 2024

Kevin Marr
Environmental Scientist
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001
kevin.marr@water.ca.gov

Subject: Comments for the Notice of Preparation of the Supplemental Environmental Impact Report, Sunset Weir and Pumps Fish Passage Project, SCH# 2024080016, Sutter County

Dear Kevin Marr,

The Central Valley Flood Protection Board (Board) appreciates the opportunity to comment on the Notice of Preparation (NOP) of the Supplemental Environmental Impact Report (SEIR) for the proposed Sunset Weir and Pumps Fish Passage Project (proposed project).

The proposed project involves installing a temporary cofferdam, temporarily dewatering the area, removing the weir, replacing the pump station, installing new fish screens at the pump station, stabilizing the bank downstream of the weir with rock slope protection and vegetation plantings, and modifying seven irrigation diversions to restore flows and fish passage conditions, reduce scour downstream, and restore the channel to natural grade. The proposed project is located in Feather River, a regulated stream and federally regulated channel that is within the Board's permitting authority, therefore an encroachment permit may be required.

California Code of Regulations, Title 23 provides standards that govern the design and construction of projects that affect the flood control works and floodways. Board staff recommends that you review Title 23 Standards, including Sections 112 (Streams Regulated and Nonpermissible Work Periods), 116 (Borrow and Excavation Activities – Land and Channel), 120 (Levees), 121 (Erosion Control), 123 (Pipelines, Conduits, and Utility Lines), 124 (Abandoned Pipelines and Conduits), 130 (Patrol Roads and Access Ramps), and 131 (Vegetation). Any deviation or variation from these standards will require approval from the Board.

Responsibility of the Central Valley Flood Protection Board

The Board is the State's regulatory agency responsible for enforcing appropriate standards for the construction, maintenance, and operation of the flood control system that protects life, property, and habitat in California's Central Valley. The Board serves as the State coordinator between local flood management agencies and the federal government, with the goal of providing the highest level of flood protection possible to California's Central Valley.

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The Board operates under authorities as described in California Water Code (Water Code), which requires the Board to oversee future modifications or additions to facilities of the State Plan of Flood Control (SPFC). In addition, pursuant to assurances provided to the United States Army Corps of Engineers (USACE) by the Board on behalf of the State, the USACE Operation and Maintenance Manuals, Code of Federal Regulations, Title 33, Section 208.10, and United States Code, Title 33, Section 408, the Board is responsible for the operation and maintenance of the SPFC facilities. The USACE requires the Board to serve as the lead non-Federal sponsor for projects to improve or alter facilities of the SPFC pursuant to Code of Federal Regulations, Title 33, Section 408. The State's objectives include fulfilling the USACE's expectations pursuant to the assurances provided to the USACE.

Encroachment Permit

Per California Code of Regulations, Title 23, Waters, Division 1 (Title 23), Section 6, approval by the Board is required for all proposed work or uses, including the alteration of levees within any area for which there is an Adopted Plan of Flood Control within the Board's jurisdiction. In addition, Board approval is required for all proposed encroachments within a floodway, on adjacent levees, and within any Regulated Stream identified in Title 23, Table 8.1. Specifically, Board jurisdiction includes the levee section, the waterward area between project levees, a minimum 10-foot-wide strip adjacent to the landward levee toe, the area within 30 feet from the top of bank(s) of Regulated Streams, and inside Board's Designated Floodways. Activities outside of these limits which could adversely affect Federal-State flood control facilities, as determined by Board staff, are also under the Board's jurisdiction. Permits may also be required for existing unpermitted encroachments or where it is necessary to establish the conditions normally imposed by permitting, including where responsibility for the encroachment has not been clearly established or ownership or uses have been changed.

Federal permits, including USACE Section 404 and Section 10 regulatory permits and Section 408 Permission, in conjunction with a Board permit, may be required for the proposed project. In addition to federal permits, state and local agency permits, certification, or approvals may also be required. State approvals may include, but are not limited to, California Department of Fish and Wildlife's Lake and Streamed Alteration Agreement and Central Valley Regional Water Quality Control Board's Section 401 Water Quality Certification and/or Waste Discharge Requirement. The Applicant must obtain all authorizations that the proposed project may require.

Flood Impacts Analysis

Pursuant to Section 15 of Title 23, the Board may deny an encroachment permit if the proposed project could:

- Jeopardize directly or indirectly the physical integrity of levees or other works
- Obstruct, divert, redirect, or raise the surface level of design floods or flows, or the lesser flows for which protection is provided
- Cause significant adverse changes in water velocity or flow regimen
- Impair the inspection of floodways or project works
- Interfere with the maintenance of floodways or project works
- Interfere with the ability to engage in flood fighting, patrolling, or other flood emergency activities

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- Increase the damaging effects of flood flows
- Be injurious to, or interfere with, the successful execution, functioning, or operation of any adopted plan of flood control
- Adversely affect the State Plan of Flood Control, as defined in the California Water Code

As a responsible agency under the California Environmental Quality Act (CEQA), the Board will need to have adequate information in order to evaluate whether to issue a permit at a future date. Accordingly, please be prepared to provide specific analyses to determine if the proposed project could result in any potential impacts listed above. This includes direct impacts to facilities under construction, as well as indirect impacts from the project to surrounding facilities. This encompasses any proposed work that contemplates modifications to a SPFC Facility, Lower San Joaquin Levee District Facility, or operation of any adopted plan of flood control or the hydrology of the water ways. It is therefore recommended that the environmental document include a specific flood facility impacts analysis section.

Closing

The potential risks to public safety, including increased flood risks, need to be considered when developing proposed projects that seek to modify flood control works or the hydrology of the water ways. Board staff is available to discuss any questions you have regarding the above comments. Please contact Jordan Robbins at (916) 524-3454, or via email at Jordan.Robbins@CVFlood.ca.gov if you have any questions.

Sincerely,

Jamie Silva

Jamie Silva
Environmental Program Manager

cc: Office of Planning and Research
State.Clearinghouse@opr.ca.gov

Marr, Kevin@DWR

To: NAHC@NAHC
Subject: RE: Comment on the NOP for SEIR for the Sunset Weir and Pumps Fish Passage Project

Hello,
Thank you for your comments on DWR's Notice of Preparation (NOP) to prepare a Supplemental Environmental Impact Report (SEIR) for the Sunset Weir and Pumps Fish Passage Project. We are only soliciting comments and interested parties at this time. We have recorded your comments, and we will incorporate consideration of your comments in the draft SEIR. There will be additional opportunities to comment on the project when the draft document is made available for public review.

Please submit any further comments in writing by 5:00 PM on August 30, 2024.

Sincerely,

Kevin Marr, M.S.
Environmental Scientist
Riverine Stewardship Program
Department of Water Resources

State of California
Native American Heritage Commission
1550 Harbor Blvd., Ste. 100
West Sacramento, CA 95691

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DEPARTMENT OF
WATER RESOURCES
SACRAMENTO

NATIVE AMERICAN HERITAGE COMMISSION

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August 1, 2024

Kevin Marr
California Department of Water Resources
P.O. Box 942836
Sacramento CA 94236-0001

Re: 2024080016 Sunset Weir and Pumps Fish Passage Project, Sutter County

Dear Mr. Marr:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@NAHC.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

Appendix B

Final SRGO Program EIR General Protection Measures, Species Protection Measures, and Mitigation Measures Applicable to the Proposed Project

B.1 Final SRGO Program EIR General Protection Measures Applicable to the Proposed Project

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

[1] Agency-approved monitor refers to monitors who demonstrate qualifications and can be approved by CDFW, NMFS, and/or USFWS and accepted by approving Water Board.

colored fencing or flagging or other practical means will be erected to demarcate the limits of the project activities, including the boundaries of designated staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones. Flagging or fencing will be maintained in good repair for the duration of project activities. Vehicles will obey posted speed limits on public roadways and will limit speeds to 20 miles per hour (mph) within the project area on unpaved surfaces and unpaved roads (to reduce dust and soil erosion) or in areas where special-status species have the potential to occur. Speeds greater than 20 mph may be permitted in the project area where special-status species are not expected to occur (e.g., within areas from which special-status species have been excluded) and where there is no risk of generating excessive dust (e.g., surfaces are paved, saturated, or have been treated with other measures to prevent dust).

- **GPM-7: Environmentally Sensitive Areas:** Monitoring, flagging, or fencing will be used, where appropriate, to minimize disturbance to environmentally sensitive areas (e.g., waters and wetlands).

  If fencing is used:

  - Fencing used must be approved by CDFW and/or USFWS for compatibility with species under their jurisdiction, as applicable, that may occur on site.
  - The agency-approved biologist or resource specialist will determine the location of fencing prior to the start of construction (e.g., between active work area(s) and sensitive resources).
  - Fencing will remain in place throughout the duration of the construction activities and will be inspected and maintained regularly by the agency-approved biologist or resource specialist until completion of the project.
  - Repairs to the fencing will be made within 24 hours of discovering any failure.
  - Fencing will be removed when all construction equipment is removed from the site, the area is cleared of debris and trash, and the area is returned to natural conditions.

- **GPM-8: Prevent Spread of Invasive Species.** The spread or introduction of invasive exotic plant species by arriving vehicles, equipment, imported gravel, and other materials, will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas will be removed and properly disposed of in a manner that will not promote their spread. Equipment will be cleaned of any sediment or vegetation at designated wash stations before entering or leaving the project area to avoid spreading pathogens or exotic/ invasive species. Isolated infestations of noxious weeds identified in the project area will be treated with approved eradication methods at an appropriate time to prevent further formation of seed and destroy viable plant parts and seed. Wash sites must be in confined areas that limit run-off to any surrounding habitat and on a flat grade. Upland areas will use rice straw or invasive species-free local slash/mulch for erosion control, while the remainder of the project area will use certified, weed-free erosion control materials. Mulch must be certified weed-free. The project proponent will follow the guidelines in the CDFW's California Aquatic Invasive Species Management Plan (CDFW 2008) and Aquatic Invasive Species Disinfection/Decontamination Protocols (CDFW 2016), where relevant. Construction supervisors and managers will be educated on weed identification and the importance of controlling and preventing the spread of noxious weeds. The project proponent will follow any applicable local guidance to prevent the spread of invasive animal species. Construction supervisors and managers will be responsible for implementation of appropriate protocols (e.g., disinfection of equipment and footwear) to prevent the spread of invasive animals.

- **GPM-9: Practices to Prevent Pathogen Contamination.** The project proponent will review and implement restoration design considerations and best management practices as published by the Working Group for *Phytophthoras* in Native Habitats (www.calphytos.org), when there is a risk of introduction and spread of plant pathogens in site plantings. (http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthoras-in-native-habitats/resources/#restoration.)

- **GPM-10: Equipment Maintenance and Materials Storage.** Vehicle traffic will be confined to existing roads and the proposed access route(s). All machinery must be in good working condition, showing no signs of fuel or oil leaks. Oil, grease, or other fluids will be washed off at designated wash stations prior to equipment entering the construction site. Inspection and evaluation for the potential for fluid leakage will be performed daily during construction. Where possible, and where it would not result in greater impact to aquatic resources, no equipment refueling, or fuel storage will take place within 100 feet of a body of water. All fuel and chemical storage, servicing, and refueling will be done in an upland staging area or other suitable location (e.g., barges) with secondary containment to prevent spills from traveling to surface water or drains. Project proponents will establish staging areas for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be located in upland areas to the extent possible and at least 100 feet from bodies of water unless site-specific circumstances do not provide such a setback or would result in further damage to sensitive resources, in which case the maximum setback possible will be used. Fluids will be stored in appropriate containers with covers and properly recycled or disposed of offsite. Machinery stored on site will have pans or absorbent mats placed underneath potential leak areas as a precautionary measure to further reduce the potential for impact from an unintended or previously undetectable leak.

- **GPM-11: Material Disposal.** All refuse, debris, unused materials, and supplies that cannot reasonably be secured will be removed daily from the project work area and deposited at an appropriate disposal or storage site. All construction debris will be removed from the project work area immediately upon project completion. The Water Quality and Hazardous Materials measures (below), will be implemented as applicable to ensure proper handling and disposal of hazardous materials.

- **GPM-12: Fugitive Dust Reduction.** To reduce dust, construction vehicles will be speed restricted as described in GPM-6, *Work Area and Speed Limits* when traveling on non-paved surfaces. Stockpiled materials susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material. During construction, water (e.g., trucks and portable pumps with hoses) or other approved methods will be used to control fugitive dust, as necessary. Dust suppression activities must not result in a discharge to waters of the state unless such discharges are approved by the State or Regional Board.

- **GPM-13: Trash Containment and Removal.** During project activities all trash will be properly contained within sealed containers and removed from the work site and disposed of as necessary to maintain a trash-free work area (e.g., trash containers will not be used beyond capacity and fully close/seal).

- **GPM-14: Project Cleanup after Completion.** Work pads, temporary falsework, and other construction items will be removed from the 100-year floodplain by the end of the construction window. Removal of materials must not result in discharge to waterbodies.

- **GPM-15: Revegetate Disturbed Areas**. All temporarily disturbed areas will be de-compacted and seeded/planted with an assemblage of native riparian, wetland, and/or upland plant species suitable for the area. The project proponent will develop a revegetation plan, including (as applicable) a schedule; plans for grading of disturbed areas to pre-project contours; planting palette with plant species native to the project area; invasive species management; performance standards; success criteria; and maintenance requirements (e.g., watering, weeding, and replanting). Plants for revegetation will come primarily from active seeding and planting; natural recruitment may also be proposed if site conditions allow for natural recruitment to reestablish vegetation and avoid potential negative risks associated with erosion and impacts to water quality. Plants imported to the restoration areas will come from local stock, and to the extent possible, local nurseries. Only native plants (genera) will be used for restoration efforts. Certified weed-free native mixes and mulch will be used for restoration planting or seeding. Revegetation activities within and adjacent to waters of the state will commence as soon as is practicable after construction activities at a site are complete.

Water Quality and Hazardous Materials

Staging and Stockpiling of Materials

- **WQHM-1: Staging Areas and Stockpiling of Materials and Equipment.** Staging, storage, and stockpile areas must be outside of waters of the state. To the extent feasible, staging will occur on access roads or other previously disturbed upland areas, such as developed areas, paved areas, parking lots, areas with bare ground or gravel, and areas clear of vegetation, to avoid aquatic habitats and limit disturbance to surrounding habitats. Similarly, all maintenance equipment and materials (e.g., road rock and project spoil) will be restricted to the existing service roads, paved roads, or other determined designated staging areas. See GPM-10 for more details regarding protection measures for materials storage.

  Staging areas will be established for equipment storage and maintenance, construction materials, fuels, lubricants, solvents, and other possible contaminants in coordination with resource agencies. Staging areas will have a stabilized entrance and exit and will be located at least 100 feet from bodies of water unless site-specific circumstances do not provide such a setback, in such cases the maximum setback possible will be used. If an off-road site is chosen and if special-status species are potentially present, the Biological Monitor will survey the selected site to verify that no aquatic resources would be disturbed by staging activities.

  Stockpiling of materials, portable equipment, vehicles and supplies (e.g., chemicals), will be restricted to the designated construction staging areas. If rain is predicted in the forecast during the dry season, and stockpiled soils will remain exposed and unworked for more than 7 days, then erosion and sediment control measures must be used. If there is a high-wind scenario (to be defined by the approving Water Board as appropriate for an individual project site), then soils will be covered at all times. During the wet season, no stockpiled soils will remain exposed, unless properly installed and maintained erosion and sediment controls are in place on and around the stockpile. Temporary stockpiling of material onsite will be minimized. Stockpiled material will be placed in upland areas far enough away from aquatic habitats that these materials cannot discharge to a water of the state.

Erosion and Sedimentation Control Measures

- **WQHM-2: Storm Water Pollution Prevention Plan.** All projects covered by the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) will prepare and implement the required, site-specific, storm water pollution prevention plan (SWPPP).

- **WQHM-3: Erosion and Sediment Control Measures.** For projects that do not require coverage under a NPDES permit per GPM WQHM-2, the project proponent will develop and implement erosion and sediment control measures (or plan), which will include appropriate BMPs to reduce the potential release of water quality pollutants to receiving waters. BMPs may include the following measures:
  - Employ tackifiers, soil binders, or mulch as appropriate for erosion control.
  - Install sediment control measures, such as straw bales, silt fences, fiber rolls, or equally effective measures, at repair areas adjacent to stream channels, drainage canals, and wetlands, as needed. Sediment control measures will be monitored during and after each storm event for effectiveness. Modifications, repairs, and improvements to sediment control measures will be made as needed to protect water quality.
  - No sediment control products will be used that include synthetic or plastic monofilament or cross-joints in the netting that are bound/stitched (such as straw wattles, fiber rolls, or erosion control blankets), and which could trap snakes, amphibians, and other wildlife.

Other Water Quality Measures

- **WQHM-4: Hazardous Materials Management and Spill Response Plan.** As part of the SWPPP or Erosion Control Plan (WQHM-2 and WQHM-3), project proponent will prepare and implement a hazardous materials management and spill response plan. Project proponent will ensure that any hazardous materials are stored at the staging area(s) with an impermeable membrane between the ground and hazardous material and that the staging area is designed to prevent the discharge of pollutants to groundwater and runoff water. Project proponent will stop work, follow the spill response plan, and arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills. (See WQHM-6. *Accidental Discharge of Hazardous Materials* for accidental discharges of a reportable quantity of a hazardous material, sewage, or an unknown material.) Project proponent will notify regulatory agencies within 24 hours of any leaks or spills. Project proponent will properly contain and dispose of any unused or leftover hazardous products off-site. Project proponent will use and store hazardous materials, such as vehicle fuels and lubricants, in designated staging areas located away from stream channels and wetlands, according to local, state, and federal regulations, as applicable. Also see GPM-10: *Equipment Maintenance and Materials Storage* for more detail on spill prevention.
- **WQHM-5: In-Water Concrete Use.** A dewatering plan must be submitted and approved by State and/or Regional Boards for in-water concrete use. Where possible, poured concrete should be excluded from contact with surface or groundwater during initial curing, ideally for 30 days after it is poured. During that time, runoff from the concrete will not be allowed to enter surface or groundwater. If this is not feasible due to expected flows and site conditions, commercial sealants that are non-toxic to aquatic life may be applied before it comes into contact with flowing water. Only sealants that have been tested and found non-toxic to freshwater aquatic life, including benthic macro-invertebrates, may be used on concrete surfaces that could come into contact with flowing water. Concrete is considered to be cured when water poured over the surface of concrete consistently has a pH of less than 8.5. (Note: Demonstration of non-toxicity to aquatic life may be evaluated by measuring survival of test organisms in a 96-hour bioassay. The bioassay should be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012), including sample collections, handling, and preservation per U.S. EPA protocols).

- **WQHM-6. Accidental Discharge of Hazardous Materials.** Following an accidental discharge of a reportable quantity of a hazardous material, sewage, or an unknown material, the following applies (Wat. Code, § 13271):

  As soon as (A) discharger has knowledge of the discharge or noncompliance, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures then:

  - first call – 911 (to notify local response agency)
  - then call – Office of Emergency Services (OES) State Warning Center at: (800) 852-7550 or (916) 845-8911
  - Lastly, follow the required OES procedures as set forth in: http://www.caloes.ca.gov/FireRescueSite/Documents/CalOESSpill_Booklet_Feb2014_FINAL_BW_Acc.pdf

    Following notification to OES, the discharger will notify the State or Regional Board (and other agencies requiring notification in their respective permits), as soon as practicable (ideally within 24 hours). Notification may be via telephone, e-mail, delivered written notice, or other verifiable means.

General In-Water Measures

- **IWW-1: Appropriate In-Water Materials.** Selection and use of gravels, cobble, boulders, and instream woody materials in streams, and other materials (e.g., oyster shells, other substrates) for reef/bed restoration will be performed to avoid and/or minimize adverse impacts to aquatic resources, special-status aquatic species, and their habitats. On-site gravels will be screened and sorted; gravels imported from a commercial source will be clean-washed and of appropriate size. As necessary to protect aquatic species, placement will be overseen by an agency-approved Monitor; implementation timing will be determined based on the least amount of overlap, or impact on, all aquatic natural resources that may be affected and the timing of their use of the receiving area. Imported gravel from outside the project watershed will not be from a source known to contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings. Materials that may foul or degrade spawning gravels, such as sand or soil eroding from sand bag or earthen dams will be managed to avoid release and exposure in salmonid streams. Oyster shells or other substrates for reef/bed restoration will be cured and inspected to be free of pathogens and/or non-native species.

- **IWW-2: In-Water Vehicle Selection and Work Access.** If work requires that equipment enter wetlands or below the bank of a waters of the state, equipment with low ground-pressure (typically less than 13 to 20 pounds per square inch (psi)) should be selected where feasible to minimize soil compaction. Low ground-pressure heavy equipment mats should be used if needed to lessen soil compaction. Hydraulic fluids in mechanical equipment working in the waters of the state, will not contain organophosphate esters. Vegetable based hydraulic fluids are preferred, where feasible. The amount of time this equipment is stationed, working, or traveling in the waters of the state will be minimized. All equipment will be removed from the aquatic feature during non-work hours where appropriate or returned to the agency-approved staging area in the aquatic feature.

- **IWW-3: In-Water Placement of Materials, Structures, and Operation of Equipment.** Material used for bank stabilization or in-water restoration will minimize discharge sediment or other forms of waste to waters of the state. Where feasible, construction will occur from the top of the stream bank, or on a ground protection mat underlain with filter fabric, or a barge. All materials placed in streams, rivers or other waters will be nontoxic. Any combination

of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures will not contain coatings or treatments, or consist of substances toxic to aquatic organisms (e.g., zinc, arsenic, creosote, copper, other metals, pesticides, or petroleum-based products) that may leach into the surrounding environment in amounts harmful to aquatic organisms. Except for the following conditions, equipment must not be operated in standing or flowing waters without site-specific approval from State or Regional Board staff:

- All construction activities must be effectively isolated from water flows to minimize the potential for runoff. This may be accomplished by working in the dry season or dewatering the work area in the wet season.
- When work in standing or flowing water is required, structures for isolating the in-water work area and/or diverting the water flow must not be removed until all disturbed areas are cleaned and stabilized. The diverted water flow must not be contaminated by construction activities.
- All open flow temporary diversion channels must be lined with filter fabric or other appropriate liner material to prevent erosion. Structures used to isolate the in-water work area and/or divert the water flow (e.g., coffer dam or geotextile silt curtain) must not be removed until all disturbed areas are stabilized.

- **IWW-4: In-Water Staging Areas and Use of Barges.** Where appropriate and practical, barges will be used to stage equipment and construct the project, while reducing noise, traffic disturbances and effects to terrestrial vegetation. When barge use is not practical, construction equipment and project materials may be staged in designated agency-approved staging areas. Existing staging sites, maintenance toe roads, and crown roads will be used to the maximum extent possible for project staging and access to avoid affecting previously undisturbed areas. For projects that involve in-water work for which boats and/or temporary floating work platforms are necessary, buoys will be installed so that moored vessels will not beach on the shoreline and anchor lines will not drag. Moored vessels and buoys will not be within 25 feet of vegetated shallow waters.

Dewatering Activities and Aquatic Species Relocation

- **IWW-5: Cofferdam Construction.** Cofferdams may be installed both upstream and downstream, and along portions of the cross section of a channel or other waterway if necessary to isolate the extent of the work areas. When feasible, construction of cofferdams will begin in the upstream area and continue in a downstream direction, allowing water to drain and allowing fish and aquatic wildlife species to leave (under their own volition), from the area being isolated by the cofferdam, prior to closure. The flow will then be diverted only when construction of the upstream dam is completed and the work area has been naturally drained of flow, at this point, the downstream dam, if necessary, would be completed and then flow would be diverted around the work area. Cofferdams and stream diversion systems will remain in place and fully functional throughout the construction period. In order to minimize adverse effects to aquatic species, stream diversions will be limited to the shortest duration necessary to complete in-water work. In-water cofferdams will only be built from materials such as sandbags, plastic, clean gravel (possibly wrapped in impermeable material), rubber bladders, vinyl, steel, or earthen fill, in a manner that minimizes siltation and/or turbidity. Sandbags may only be used to build cofferdams upstream of spawning gravels when filled with clean gravel (or other material acceptable to the approving Water Board). Where possible, cofferdams should be pushed into place. If pile driving (sheet piles) is required, vibratory hammers should be used and impact hammer should be avoided. If necessary, the footing of the cofferdam will be keyed into the channel bed at an appropriate depth to capture the majority of subsurface flow needed to dewater the streambed. When

cofferdams with bypass pipes are installed, debris racks will be placed at the bypass pipe inlet in a manner that minimizes the potential for fish impingement and/or entrapment. As needed and where feasible, bypass pipes will be monitored for accumulation of debris. All accumulated debris will be removed. When appropriate, cofferdams will be removed so surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than one inch per hour. Cofferdams in tidal waters should be removed during the lowest possible tide and in slack water to the extent feasible to minimize disturbance and turbidity. This will minimize the probability of fish and other aquatic species stranding as the area upstream becomes dewatered. All dewatering/diversion facilities will be installed such that natural flow is maintained upstream and downstream of project areas.

An area may need to be dewatered for long enough to allow special-status species to leave on their own before final clearance surveys and construction can begin.

- **IWW-6: Dewatering/Diversion.** The area to be dewatered will encompass the minimum area necessary to perform construction activities. The project proponent will provide a dewatering plan with a description of the proposed dewatering structures, and appropriate types of BMPs for the installation, operation, maintenance, and removal of those structures. The period of dewatering/diversion will extend only for the minimum amount of time needed to perform the restoration activity and to allow special-status species time to leave on their own before final clearance surveys and construction can begin. Where feasible and appropriate, dewatering/diversion will occur via gravity-driven systems, and where water is pumped from within the construction area, it should be pumped to upland areas (where feasible) and to a location where it can infiltrate without return flows to the watercourse. Dewatering/diversion will be designed to avoid direct and preventable indirect mortality of fish and other aquatic species. If special-status fish species may be present in the area to be dewatered, a fish capture and relocation plan will be developed and implemented for review and approval by appropriate agencies (e.g., CDFW, NMFS, USFWS, as applicable). Stream flows will be allowed to gravity flow around or through the work site using temporary bypass pipes or culverts. Bypass pipes will be sized to accommodate, at a minimum, twice the expected construction-period flow, to not increase stream velocity, and will be placed at stream grade. Conveyance pipe outlet energy dissipaters will be installed to prevent scour and turbidity at the discharge location. When use of gravity-fed dewatering is not feasible and pumping is necessary to dewater a work site, a temporary siltation basin and/or use of silt bags may be required. Silt fences or mechanisms to avoid sediment input to the flowing channel will be installed adjacent to flowing water. Water pumped or removed from dewatered areas will be conducted in a manner that does not contribute turbidity to nearby receiving waters. Where possible, pumps will be refueled in an area well away from the stream channel. Fuel absorbent mats will be placed under the pumps while refueling. Equipment working in the stream channel or within 25 feet of a wetted channel will have a double (i.e., primary and secondary) containment system for diesel and oil fluids.

- All work will comply with the CDFW Fish Screening Criteria (CDFW 2001) and NMFS Fish Screening Criteria for Anadromous Salmonids (NMFS 1997). Pump intakes will be covered with mesh per the requirements of current fish screening criteria to prevent potential entrainment of fish or other aquatic species that could not be removed from the area to be dewatered. The pump intake will be checked periodically for impingement of fish or other aquatic species. Diverted flows must be of sufficient quality and quantity, and of appropriate temperature, to support existing fish and other aquatic life both above and below the diversion. Pre-project flows must be restored to the affected surface water body upon completion of work at that location. Where diversions are planned, contingency plans will be developed that include oversight for breakdowns, fueling, maintenance, leaks, etc.

- **IWW-8: Removal of Diversion and Barriers to Flow.** Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that will allow flow to resume with the least disturbance to the substrate and consideration of turbidity levels. Alteration of creek beds will be minimized to the maximum extent possible; any imported material that is not part of the project design will be removed from stream beds upon completion of the project.

In-water Pile Driving and Pile Replacement

- **IWW-9: In-Water Pile Driving Plan for Sound Exposure**. Project proponents will develop a plan for pile-driving activities to minimize impacts to special-status species and submit it to relevant agencies for approval prior to the start of in-water pile driving activities. Measures will be implemented to minimize underwater sound pressure to levels below fish thresholds for peak pressure and accumulated sound exposure levels. Thresholds levels for special-status fish under NMFS jurisdiction are established in the Fisheries Acoustic Work Group's Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities (FAWG 2008) and may be used as a guideline for special-status fish. The plan will describe the least impactful method to aquatic organisms, and will identify the number, type, and size of piles, estimated sound levels caused by the driving, how many piles will be driven each day, qualifications of monitors, any other relevant details on the nature of the pile driving activity, and the actions that will be taken to ensure a project stays within the required sound exposure thresholds.

- **IWW-10: In-Water Pile Driving Methods**. Pile driving will occur during approved work windows with reduced currents and only during daylight hours. Pile driving will be conducted with vibratory or low/nonimpact methods (i.e., hydraulic) that result in sound pressures below threshold levels to the extent feasible. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved. If it is determined that impact hammers are required and/or underwater sound monitoring demonstrates that thresholds are being exceeded, the contractor will implement sound dampening or attenuation devices to reduce levels to the extent feasible; these may include the following:
  - A cushioning block used between the hammer and pile.
  - Use of a confined or unconfined air bubble curtain.
  - If feasible, pile driving could be done in the dry area (dewatered) behind the cofferdam.

  Pile driving will follow the criteria outlined in the most recent version of the California Department of Transportation's *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (Caltrans 2015).

- **IWW-11: Sediment Containment during In-Water Pile Driving**. Caissons or a ~~A~~ continuous length of silt curtain, fully surrounding the pile driving area and installed in close proximity to piers, must be used as necessary and as practicable to protect aquatic resources and to provide sediment containment while construction activities are occurring if working in a wetted channel. The silt curtain will prevent the release of a turbidity plume and trap sediment that may become suspended as a result of the pile driving. The bottom of the silt curtains must be weighted with ballast weights or rods affixed to the base of the fabric to resist the natural buoyancy of the silt curtain fabric and lessen its tendency to move in response to currents. Where feasible and applicable, the floating silt curtains must be anchored and deployed from the surface of the water to just above the substrate. The silt curtain must be monitored for damage, dislocation or gaps and must be immediately repaired where it is no longer continuous or where it has loosened. The silt curtain must restrict the

surface visible turbidity plume to the area of pile construction and must control and contain the migration of re-suspended sediments at the water surface and at depth.

- **IWW-12: Pile-driving Monitoring.** An agency-approved biologist will be on site during pile-driving activities to minimize effects to special-status species that could be present. If any stranding, injury, or mortality to special-status species is observed, federal and state wildlife agencies will be notified in writing (e.g., via email) within 24 hours and in-water pile driving will cease until the applicable federal and/or state agencies provide guidance on how to proceed.

Dredging Operations and Dredge Materials Reuse

- **IWW-13: Dredging Operations and Dredging Materials Reuse Plan**. Project proponent will develop and implement a dredging operations and dredging materials management plan to minimize the effects that could occur during dredging operations and material reuse and disposal. If material is being imported from off-site or if there are specific concerns about residual contaminants in the soil from historic land use activities (which can be determined on a site-specific basis in collaboration with the approving Water Board), the plan will describe a sampling program for conducting physical and chemical analyses of sediments before import and/or disturbance. It will also describe BMPs to be implemented during dredging operations (e.g., using less intrusive dredging procedures, properly containing dredging spoils and water, using silt curtains, methods to minimize turbidity, and timing dredging activity to coincide with low flows). The plan also will describe methods to evaluate the suitability of dredged material for reuse and disposal.

Vegetation/Habitat Disturbance and Revegetation, and Herbicide Use

Vegetation/Habitat Disturbance and Revegetation

- **VHDR-1: Avoidance of Vegetation Disturbance.** The project proponent will minimize, to the greatest extent feasible, the amount of soil, terrestrial vegetation, emergent native vegetation, and submerged vegetation (e.g., eelgrass and kelp in marine areas, or submerged aquatic vegetation in brackish and freshwater areas) disturbed during project construction and completion and using methods creating the least disturbance to vegetation. Disturbance to existing grades and native vegetation, the number of access routes, the size of staging areas, and the total area disturbed by the project will be limited to the extent of all temporary and permanent impacts as defined by the final project design. All roads, staging areas, and other facilities will be placed to avoid and limit disturbance to waters of the state and other aquatic habitats (e.g., streambank or stream channel, riparian habitat) as much as possible. When possible, existing ingress or egress points will be used and/or work will be performed from the top of the creek banks or from barges on the waterside of the stream or levee bank, or dry gravel beds. Existing native vegetation will be retained as practicable, emphasizing the retention of shade-producing and bank stabilizing trees and brush with greater than 6-inch diameter branches or trunks. Where possible, vegetation disturbance and soil compaction will be minimized by using low ground-pressure (typically less than 13 to 20 pounds psi) equipment that exerts less pressure per square inch on the ground than other equipment. To minimize impacts to vegetation, select equipment with a greater reach.

- **VHDR-2: Native and Invasive Vegetation Removal Materials and Methods:** If riparian vegetation is to be removed with chainsaws or other power equipment, machines that operate with vegetable-based bar oil will be used, as practicable. All invasive plant species (e.g., those rated as invasive by the California Invasive Plant Council or local problem species) will, if feasible, be removed from the project site, using locally and routinely accepted

agriculture practices. Invasive plant material will be destroyed using approved protocols and disposed of at an appropriate upland disposal or compost area. Invasive plant materials stockpiled at sites known to experience flash flooding outside the flood season will be removed within 15 days of the initial creation of the stockpile in order to contain the potential spread of invasive plant material. Stockpiling of invasive plant materials is prohibited during the flood season.

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

Herbicide Use

- **VHDR-6: General Herbicide Use.** Chemical control of invasive plants and animals will only be used when consistent with water quality control plans (e.g., basin plans) and when other methods are determined to be ineffective or would create greater environmental impacts than chemical control. Chemical use will be evaluated on a project-by-project basis with consideration of (and preference given towards) integrated pest management (IPM) strategies wherever possible. See University of California Statewide IPM Program for guidance

documents (http://ipm.ucanr.edu/index.html). Broadcast spraying, including the use of aerial drones, may be used if it provides greater application accuracy and access.

Chemical use is restricted in accordance with approved application methods and best management practices designed to prevent exposure to non-target areas and organisms. Any chemical considered for control of invasive species must be approved for use in California, adhere to all regulations per the California Environmental Protection Agency (CEPA 2011 or most recent version), and be applied by a licensed applicator under all necessary state and local permits. Use herbicides only in a context where all treatments are considered, and various methods are used individually or in concert to maximize the benefits while reducing undesirable effects and applying the lowest legal effective application rate, unless site-specific analysis determines a lower rate is needed to reduce non-target impacts. Treat only the minimum area necessary for effective control. Within 25 feet of any water of the state, only formulations approved by EPA and State Water Board for aquatic use will be utilized. Soil-activated herbicides can be applied as long as directions on the label are followed. Aquatic pesticides will be applied in compliance with NPDES order(s), where applicable (https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/) or with authorization from the approving Water Board.

- **VHDR-7: Herbicide Application Planning.** Written chemical application recommendations should be provided by each project proponent from a certified Pest Control Advisor (PCA) (CEPA 2011). The PCA can ensure that legal, appropriate, and effective chemicals are used with appropriate methodologies. Field scouting must be done before application, and the licensed Applicator (CEPA 2011) must be on-site to lead all applications and will adhere to standard protection measures for application. Prior to field scouting or application, the PCA or licensed applicator, will receive Environmental Awareness Training (see GPM-4) for the project so that they are aware of special status species and habitats present at the project site.
- **VHDR-8 Herbicide Application Reporting.** The licensed applicator will keep a record of all plants/areas treated, amounts and types of herbicide used, and dates of application, and pesticide application reports must be completed within 24 hours of application and submitted to applicable agencies for review. Wind and other weather data will be monitored and reported for all application reports.

B.2 Final SRGO Program EIR Species Protection Measures Applicable to the Proposed Project

- **SPM-1: Preconstruction Surveys.** If special-status plants are present and/or special-status terrestrial animal species habitat is present (e.g., stationary habitat such as burrows, bird nests, cavities for bats, etc.), where appropriate, based on project-specific requirements, a qualified, agency-approved biologist with experience on the identification of all applicable life stages of the special-status species will conduct reconnaissance-level preconstruction surveys and implement additional measures, as appropriate, to protect the species from construction-related disturbance before work begins. The intent of the survey is to assess current species habitat and use locations in the project area immediately prior to construction. Special-status plant species surveys shall be conducted in the appropriate blooming period, as applicable, prior to the start of construction for proper plant identification. If construction activities cease for more than five consecutive days, and there is potential for special-status species to re-occupy the site, the agency-approved biologist will re-survey the project area and implement measures, as appropriate. A project proponent can choose to assume animal species presence, forgo preconstruction surveys, and implement additional protection measures, as appropriate, to protect special status species from construction-related disturbance.

Additional species guild-specific pre-construction requirements are described below and may supersede this general species protection measure, as applicable.

- **SPM-2: Environmentally Sensitive Areas and/or Wildlife Exclusion.** Monitoring, flagging, and/or fencing will be used to minimize disturbance to environmentally sensitive areas (e.g., waters and wetlands). This measure augments GPM-7, which applies to sensitive aquatic resources.

  If fencing is used:

  - The agency-approved biologist or resource specialist will determine the location of the fencing prior to the start of construction (e.g., between active work area(s) and sensitive resources).
  - Fencing will remain in place throughout the duration of the construction activities, and will be inspected and maintained regularly by the agency-approved biologist or resource specialist until completion of the project.
  - Repairs to the fencing will be made within 24 hours of discovery.
  - Fencing will be removed when all construction equipment is removed from the site, and the area cleared of debris and trash, and returned to natural conditions.

- **SPM-3: Species Protection Construction Work Windows.** Construction work windows may be required, depending on whether or not the project involves in-water construction and/or whether special-status species have potential to occur onsite.

- **SPM-4: Species Capture, Handling and Translocation.** Special-status species capture, handling, and translocation will only be conducted by an agency-approved biologist(s). Required permitting will be needed prior to any capture, handling, and relocation. If translocation of special-status species is needed, the project proponent will prepare a special-status species translocation plan to be reviewed and approved by the agency(ies), as appropriate, prior to project implementation. The plan will include capture and translocation methods, translocation site, and post translocation monitoring, if applicable. If capture, handling, and translocation is necessary due to dewatering activities, refer to the protective measures for Dewatering Activities, under general protection measure IWW 6 and follow the agency-approved translocation plan.

- **SPM-5: Special-Status Species Entrapment Prevention.** All excavated, steep-walled holes or trenches will be covered with appropriate covers (e.g., thick metal sheets or plywood) at the end of each workday. Covers will be placed so that trench edges are fully sealed with rock bags, sand, or other appropriate material. Alternatively, one or more escape ramps such as fill dirt or wood planking will be installed at an angle no greater than 30 degrees, to allow wildlife to escape. Before holes or trenches are filled, sealed, or collapsed, the holes or trenches will be thoroughly inspected for trapped animals. Any animals discovered will be allowed to escape voluntarily or will be relocated by an agency-approved biologist.

- **SPM-6: Airborne Noise Reduction.** Equipment, including noise abatement systems, will be maintained in good working order. If construction noise has the potential to adversely affect special-status species, the project proponent will include site specific measures for construction activities to minimize impacts. Muffler (or spark arrester) damage must be promptly remedied, to the degree practicable, to meet sound attenuation standards.

- **REP-1: Pre-Construction Survey.** An agency-approved biologist will conduct pre-construction surveys for the target reptile species within 72 hours prior to any initial ground

disturbance within all suitable habitat within or adjacent to the project site and accessible to the project proponent, to identify locations where special-status reptiles may be present, evaluate current activity status in the project area, and protect the species and its habitat from avoidable construction-related disturbance. The intent of this survey is to assess current special-status reptile habitat and use locations in the project area immediately prior to construction. Preconstruction surveys may be phased across a construction site if construction in different areas will occur at different times; only areas where disturbance is imminent need be surveyed. The project area will be re-inspected by the agency-approved biologist whenever a lapse in construction activity of 5 days or greater has occurred.

- **REP-2: Environmentally Sensitive and Wildlife Exclusion Area.** Prior to the start of construction, SPM-2, Environmentally Sensitive and Wildlife Exclusion will be implemented. In addition, the following applies:
  - For the giant garter snake, fencing and/or monitoring will be implemented in coordination with the agency-approved biologist prior to the start of ground-disturbing activities.

  If fencing is used the fencing will be inspected by the agency-approved biologist before the start of each work day and maintained by the project proponent until completion of the project. The fencing will be removed after all construction equipment is removed from those segments of the project. To prevent reptiles from becoming entangled, trapped, or injured, fencing materials that use plastic or synthetic monofilament netting will not be used. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers.

- **REP-3: Clearing and Grubbing Vegetation.** An agency-approved biologist will be present during all vegetation clearing and grubbing activities in areas where the special-status reptiles are confirmed to occur, or where measures are being implemented based on presence of suitable habitat. Prior to vegetation removal, the agency-approved biologist will thoroughly survey the area for these species. Vegetation in sensitive areas will be cleared by handheld motorized tools (e.g., weed eaters, chainsaws) or hand pulling unless alternate methods are proposed by the project proponent and approved by agency(ies). Tree stumps and roots will be left in place where possible to avoid any ground disturbance and preserve refugia habitat, with the exception of non-native invasive plants that could propagate from remaining vegetative material. Native branches, leaf litter, mulch, woody debris, and other vegetative trimmings may be retained and spread on site to enhance habitat as appropriate.

- **REP-4: Prohibited Use of Rodenticides**. No rodenticides will be used at the project site during construction in areas that support suitable habitat for special-status reptiles.

- **REP-5: Species Observations and Encounters**. Each proposed project with the potential to encounter a special-status reptile species will submit a rescue and relocation plan to agency(ies) for review and approval prior to initiating construction. General guidance to be considered during plan development is as follows: 1) leave the uninjured animal if it is not in danger, or 2) move the animal to a nearby location if it is in danger as described in *REP-6, Species Handling and Relocation*, below. These options are further described as follows:
  - When a special-status reptile is encountered in the project area, the priority is to stop all activities in the surrounding area that have the potential to result in the harm, injury, or death of the individual. The agency-approved biologist then needs to assess the situation to select the course of project that will minimize adverse effects to the individual.
  - Avoid contact with the animal and allow it to move out of the project footprint and hazardous situation on its own to a safe location. This guidance only applies to situations

where an animal is encountered while moving through habitat and under conditions that will allow it to escape. This does not apply to animals that are uncovered or otherwise exposed or in areas where there is not enough adjacent habitat to support the life history of the special-status reptiles if they move outside the construction footprint.

- Avoidance is the preferred option if the animal is not moving or is within some sort of burrow or other refugia. In this case, the area will be well marked for avoidance by construction and an agency-approved biologist will be assigned to the area when work is taking place nearby. If avoidance is not practicable or safe for the special-status reptile, the project proponent will implement REP-6, below.

- **REP-6: Species Handling and Relocation.** A special-status reptile will only be captured and relocated when it is the only option to prevent its death or injury, and after all attempts to avoid interaction of the species have been exhausted as described in *REP-6, Species Observation and Encounters.* Project-specific rescue and relocation plans will be approved by the agency(ies) prior to starting construction. General guidance for handling and relocation is as follows:

  - If appropriate habitat is located immediately adjacent to the capture location, then the preferred option is short distance relocation to that habitat. A snake will not be moved outside of the area where it could have traveled on its own. Captured snakes will be released in appropriate cover as close to their capture location as possible for their continued safety. Under no circumstances will an animal be relocated to another property without the owner's written permission. It is the project proponent's responsibility to arrange for that permission.

  - The release locations must be pre-identified in the project-specific rescue and relocation plan approved by the agency(ies); they will depend on where the individual was found and the opportunities for nearby release. In most situations the release location is likely to be into the mouth of a small burrow, other suitable refugia, or suitable habitat.

  - Only agency-approved biologists for the project can capture special-status reptiles.

- **BIRD-1: Habitat Assessment**. A habitat assessment will be conducted by a qualified biologist to determine whether suitable habitat (e.g., including foraging, nesting, and dispersal habitat) for the special-status bird(s) occurs in the project area, as applicable. If suitable habitat for special-status species is identified in the project area and the proposed project may affect suitable habitat, the project proponent will implement measures *BIRD-2* through *5* in areas with suitable habitat. Alternatively, the project proponent may propose to conduct surveys and/or monitoring to confirm presence or absence of the species.

- **BIRD-2: Nest Protection Work Window.** Project activity in known or potentially occupied migratory bird habitat will be conducted outside of the nesting season to the maximum extent practicable. If project activities must occur during the nesting season see BIRD-5.

- **BIRD-3: Work Area Limits.** Work site boundaries in suitable habitat will be clearly marked with flagging or other visible materials, which will be removed at the conclusion of the project.

- **BIRD-4: Site Access Restrictions.** If the site conditions allow, access to work sites in occupied habitat will be by foot travel, otherwise heavy equipment will be allowed within suitable nesting habitats only with the presence of an agency-approved biologist. Access routes and work areas will be limited to the minimum amount necessary to achieve the project goals.

- **BIRD-5: Monitoring.** If project activities must occur during the nesting season, pre-construction nest surveys will be conducted by an agency-approved biologist, buffers will be established to protect active nests, and disturbance in the vicinity of active nests will be monitored to ensure that it does not disrupt an active nest.

- **MAM-1: Conduct Habitat Assessment.** Prior to construction, an agency-approved biologist will conduct a habitat assessment in potentially suitable habitat within the project footprint to determine presence of special-status mammals or their sign (e.g., scat, guano, tail drags and tracks, skeletal remains in owl pellets, etc.). The habitat assessment surveys will be conducted within 2 years, and at least 14 days prior to the start of construction or ground disturbing activities. If no burrows or sign of special-status mammals are detected, no further measures will be required.

- **MAM-2: Avoidance Areas.** Based on the results of the habitat assessment, in areas where special-status mammals are believed to be present based on observations (e.g., signs of presence, burrows), non-disturbance zones will be established prior to construction or ground disturbing activities.

- **MAM-3: Use of Handheld Tools.** If exclusion fencing will be installed, vegetation in active work areas outside of the exclusion areas will be trimmed and cleared to the ground using handheld tools (which can include handheld motorized equipment, such as weed whackers or mowers) to the maximum extent practicable, under the supervision of an agency-approved biologist, to discourage presence of species in the construction area.

- **MAM-4: Species Trapping and Relocating.** If the minimum avoidance zone cannot be maintained and the agency-approved biologist believes activities will disturb or destroy habitat (e.g., collapse burrows) or may otherwise adversely affect these special-status mammal species, then an agency-approved biologist may be required to implement a trap and release program at the agency's discretion. Project-specific guidance on trapping, temporary holding, release location, and release method will be required by the agency prior to the start of trapping.

- **MAM-5: Reporting Requirements.** Agencies will be notified within 24 hours if any individual special-status species is captured. The date; time of capture; specific location (GPS coordinates); and approximate size, age, and health of the individual will be recorded and provided in both hard copy and digital format to the agency(ies) within 2 weeks of the conclusion of the protective trap-and-release operation.

  The agency(ies) will be notified within 24 hours if any special-status mammal species is found injured or dead. A written notification will also be prepared by the project proponent after verbal notification to the agency(ies). The report will include the date, time, and location of the discovered animal/carcass; cause of injury or death; and any other pertinent information. All dead and preserved specimens will be submitted to the appropriate agency(ies) upon request. Salvaged animals will be kept cooled or frozen until delivered.

- **INVERT-3: Implement Valley Elderberry Longhorn Beetle Protocol.** Implement the following measures for projects that include suitable habitat that could be occupied by valley elderberry longhorn beetle (VELB), as applicable.

  - For the VELB, the project proponent will be required to follow the Protection Measures presented in the *May 2017 FWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* or the most updated version of this guideline document (USFWS 2017).

- **FISH-1: Habitat Disturbance Avoidance and Minimization.** Disturbance to aquatic habitat for special-status fish species will be avoided and/or minimized to the maximum extent practicable unless the purpose of the project is to provide overall benefits to the species and the benefits are greater than any temporary impacts to habitat.

- **FISH-2: Habitat Assessment and Surveys.** For projects that may result in impacts to aquatic habitat within the range of special-status fish species, no less than 30 days prior to construction of the project, the project proponent will evaluate the potential for special-status fish species to be present in the project area. The evaluation may be based on existing information if sufficiently available, or the project proponent may conduct a habitat assessment or focused survey for those species, if appropriate. The habitat assessment and/or survey will be conducted in potentially suitable aquatic habitat within 300 feet of the project area. The agency-approved biologist will conduct the habitat assessment and/or fish survey and will adhere to the standards provided in the CDFW *California Salmonid Stream Habitat Restoration Manual 4th Edition Volume I: Section IV* (CDFW 2010) or most current regulatory agency guidance document. If special-status fish species are observed during the survey or the habitat is otherwise potentially occupied, based on the results of the habitat assessment or existing information, the project proponent will implement *FISH-3, Fish Capture and Relocation*, as described below.

- **FISH-3: Fish Capture and Relocation.** For projects that require dewatering or other work in suitable habitat for the special-status fish species, if fish capture and relocation would be the most protective approach to managing fish during construction, then a fish capture and relocation plan will be developed and submitted to NMFS, USFWS, and/or CDFW, as applicable, for approval. The plan will describe the biologist qualifications, capture methods, capture and relocation work areas, and reporting requirements including details in the list below. If capture and relocation is not feasible or would not be the most protective approach to managing fish in the work area (e.g., if dewatering is not needed or appropriate; or if fish are in a large, unconfined water body), other methods to protect covered fish species (e.g., timing restrictions around season and tide, or bubble curtains) should be detailed in a plan and submitted to FWS for approval.

    - This plan will incorporate the latest agency guidance relating to the capture and relocation of fish, as applicable.
    - Procedures for decontamination of any equipment used in the capture and relocation of fish will be identified.
    - Prior to the implementation of capture and relocation activities, relocation (or release) sites will be identified by the agency-approved biologist based on proximity, access, habitat suitability, and potential to be affected by construction-related disturbance. Suitable habitat for relocation site(s) will be within the same watershed/sub-watershed fish were originally captured.
    - Fish relocation will only be conducted (or led) by an agency-approved biologist. If an agency-approved biologist is needed, the project proponent will submit the biologist's qualifications to the appropriate agency office for approval 30 days prior to project construction. The biologist will have knowledge and experience in fish biology and ecology, fish/habitat relationships, and biological monitoring, and handling, collecting, and relocating fish or other relevant experience.
    - Residual surface water associated with the diverted or dewatered habitat will be monitored or sampled for the presence of fish by an agency-approved biologist as soon as the waters are isolated. If a special-status fish is observed in the isolated habitat, they will

be immediately captured and relocated to the suitable habitat outside of the construction area, but within the same watershed/sub-watershed, by the agency-approved biologist in accordance with the approved fish capture and relocation plan.

- The agency-approved biologist will relocate any special-status fish species that may become stranded to an appropriate place depending upon the life stage of the fish, consistent with the approved rescue and relocation plan.
- The agency-approved biologist will note the number of individuals observed in the affected area, the number of individuals relocated, the approximate size of individuals, the location of capture and release, any instances of injury or mortality, and the date and time of the collection and relocation. The agency-approved biologist will also identify and record the species observed and relocated and the life stage for anadromous species. This information will be reported to the appropriate agency office within 7 days of completion of the fish capture and relocation effort.
- One or more of the following methods will be used to capture protected fish species: electrofishing, dip net, seine, throw net, minnow trap, and hand capture.

- **FISH-4: Reporting.** An agency-approved biologist will provide a written summary of work performed (including biological survey and monitoring results), protection measures implemented (e.g., use of biological monitor, flagging of work areas, erosion and sedimentation controls) and supporting photographs of each stage to the appropriate agency office. Furthermore, the documentation describing surveys and re-location efforts (if appropriate) will be completed in accordance with the requirements of FISH-3: *Fish Capture and Relocation*.

- **PLANT-1: Habitat Assessment and Surveys.** If the project area can potentially support special-status plant species, an agency-approved biologist will conduct a survey for special-status plant species within 1 year prior to commencement of ground-disturbing activities. Surveys should follow USFWS's *General Rare Plant Survey Guidelines* (USFWS 2002); and CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (2018) or their most recent equivalents.

- **PLANT-2: Seasonal Avoidance of Vernal Pool Plant Species and Other Annual and Perennial Species**:
  - *For Vernal Pool Plant Species:* Work within 250 feet of suitable special-status vernal pool plant habitat (e.g., vernal pools, seasonal wetlands) will be performed under dry site conditions to the maximum extent possible, to minimize potential adverse impacts to aquatic habitats. If any construction activities must occur during the wet period, exclusion fencing and erosion control materials will be placed around vernal pools and other seasonal wetlands as determined by the agency-approved biologist to reduce sedimentation into vernal pool habitat. The fencing will provide a buffer between construction activities and the vernal pools and other seasonal wetlands. The agency-approved biologist will oversee, monitor, inspect and maintain the exclusion fencing.
  - *For Other Annual Plant Species:* To avoid impacts to other annual species, schedule work to occur after plants have set seed and senesced, avoid soil disturbance, and avoid actions that have potential to reduce habitat quality.

- **PLANT-3: Exclusion Buffer Establishment.** An agency-approved biologist will clearly delineate with flagging or other field markers a minimum 50-foot avoidance buffer around all special-status plants or their suitable habitat. A larger exclusion buffer may be established if

determined by the agency-approved biologist to be necessary for the protection of the special-status plants. No work activity will occur within the exclusion buffer, except as permitted under Measure *PLANT-4, Work Restrictions in the Exclusion Buffer*. Additionally, a buffer of at least 300 feet from any vernal pool, vernal pool grassland, or seasonal wetland will be established for the protection of special status plants.

- **PLANT-4: Work Restrictions in the Exclusion Buffer.** If agency-approved biologist determines that some work activities can take place within the exclusion buffer described in Measure PLANT-3 without causing any adverse direct or indirect impacts to special-status plants identified for avoidance, those approved work activities may be conducted within the exclusion buffer. Special-status vernal pool plants will be clearly marked by an agency-approved biologist prior to worker entry into the exclusion buffer. Workers may only enter the exclusion buffer when accompanied by an agency-approved biologist, and all work within the exclusion buffer will be monitored by an agency-approved biologist.

- **PLANT-6: Herbicide Application, Clearing, and Ground Disturbance.** If mechanical removal is not effective, or could damage sensitive habitats, limited herbicide application may occur as noted below and in accordance with General Protection Measures VHDR-6 through VHDR-8, wind speed limitations during herbicide application.

  To avoid impacts to other special-status species (non-vernal pool species), the following protections will be applied:

  - Application of herbicide will occur during dry conditions (no precipitation), to the maximum extent practicable.
  - Backpack and hand-held herbicide application, if applied in dry conditions, is prohibited within 5 feet of any special-status plant. Protect special-status plants from herbicide drift (e.g., cover with plastic when spraying or use a wick applicator).
  - Broadcast and power spray herbicide application is prohibited; and
  - Ground disturbing activities are prohibited within 5 feet of senesced annual and perennial plants and within 10 feet of perennial plants. Ground disturbance should occur outside of the dripline of any woody species identified for avoidance.

B.3 Final SRGO Program EIR Mitigation Measures Applicable to the Proposed Project

Mitigation Measure AES-1: Minimize Degradation of Visual Quality

- Use compatible colors for proposed structural features, such as fish screens and storage tanks. Use earth tone paints and stains with low levels of reflectivity.
- Minimize the vertical profile of proposed structures as much as possible.
- Use vegetation plantings on proposed facility walls, such as climbing plants, espaliers, and other forms that soften the appearance of structures.
- Provide vegetative screening to soften views of structures. Landscaping should complement the surrounding landscape.
- Mitigation Measure AES-2: Avoid Effects of Project Lighting
- Proposed lighting facilities shall use shields, and lighting shall be directed downward

Mitigation Measure AES-2: Avoid Effects of Project Lighting

- Proposed lighting facilities shall use shields, and lighting shall be directed downward

Mitigation Measure AIR-1: Minimize Conflicts with Applicable Air Quality Plans

Proponents of restoration projects permitted under the Order and their construction contractors shall implement the following measures to minimize conflicts between project construction and applicable air quality plans:

- Use equipment and vehicles that comply with CARB requirements and emission standards for on-road and off-road fleets and engines. New engines and retrofit control systems should reduce NOx and PM emissions from diesel-fueled on-road and off-road vehicles and equipment.
- Minimize idling times, either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of the California Code of Regulations). Clear signage should be posted for construction workers at all entrances to the site.
- Maintain all equipment in proper working condition according to the manufacturer's specifications.
- Use electric equipment when possible. Use lower emitting alternative fuels to power vehicles and equipment where feasible.
- Use low–volatile organic compound (VOC) coatings and chemicals; minimize chemical use.

Mitigation Measure AIR-2: Minimize Construction Air Pollutant Emissions

Air quality analyses prepared for future restoration projects shall evaluate human health risks from potential exposures of sensitive receptors to substantial pollutant concentrations from the projects. The need for a human health risk analysis should be evaluated using approved screening tools, and discussed with the local air quality management district or air pollution control district during the preparation of the air quality analysis.

If the project's health risk is determined to be significant, control measures should be implemented to reduce health risks to levels below the applicable air district threshold.

Implementation of one or more of the following requirements, where feasible and appropriate, would reduce the effects of construction:

- Use equipment with diesel engines designed or retrofitted to minimize DPM emissions, usually through the use of catalytic particulate filters in the exhaust.
- Use electric equipment to eliminate local combustion emissions.
- Use alternative fuels, such as compressed natural gas or liquefied natural gas.

If the restoration project would result in significant emissions of airborne, naturally occurring asbestos, or metals from excavation, hauling, blasting, tunneling, placement, or other handling of rocks or soil, a dust mitigation and air monitoring plan shall identify individual restoration project measures to minimize emissions and ensure that airborne concentrations of the TACs of concern do not exceed regulatory or risk-based trigger levels.

Mitigation Measure AIR-3: Minimize GHG Emissions

Restoration projects permitted under the Order shall implement the GHG mitigation measures listed in the most recent air district guidance documents (e.g., CAPCOA 2010; BAAQMD 2011), as appropriate for the project site and conditions. Current versions of such guidance documents list the following for construction of projects:

- Use alternative fuels for construction equipment.
- Use electric and hybrid construction equipment.
- Limit construction equipment idling beyond regulatory requirements.
- Institute a heavy-duty off-road vehicle plan.
- Implement a construction vehicle inventory tracking system.
- Use local building materials for at least 10 percent of total materials.
- Recycle or reuse at least 50 percent of construction waste or demolition materials.

Mitigation Measure CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation

If archaeological resources are encountered during project construction or operation of any project permitted under the Order, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. The lead agency and a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology, shall be immediately informed of the discovery. The qualified archaeologist shall inspect the discovery and notify the lead agency of their initial assessment. If the qualified archaeologist determines that the resource is or is potentially indigenous in origin, the lead agency shall consult with culturally affiliated California Native American Tribes to assess the find and determine whether it is potentially a tribal cultural resource.

If the lead agency determines, based on recommendations from the qualified archaeologist and culturally affiliated California Native American Tribes, that the resource is indigenous, that the resource may qualify as a historical resource (per State CEQA Guidelines Section 15064.5), unique archaeological resource (per PRC Section 21083.2), or tribal cultural resource (per PRC Section 21074), then the resource shall be avoided if feasible. If avoidance of an identified indigenous resource is not feasible, the lead agency shall consult with a qualified archaeologist, culturally affiliated California Native American Tribes, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts on the resource pursuant to PRC Section 21083.2 and State CEQA Guidelines Section 15126.4. If any such resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission. Once treatment measures have been determined, the lead agency shall prepare and implement an archaeological (and/or tribal cultural) resources management plan that outlines the treatment measures for the resource. Treatment measures typically consist of the following steps:

- Determine whether the resource qualifies as a historical resource (per State CEQA Guidelines Section 15064.5), unique archaeological resource (per PRC Section 21083.2), or tribal cultural resource (per PRC Section 21074) through analysis that could include additional historical or ethnographic research, evaluative testing (excavation), or laboratory analysis.

- If it qualifies as a historical resource (per State CEQA Guidelines Section 15064.5) and/or unique archaeological resource (per PRC Section 21083.2), implement measures for avoiding or reducing impacts such as the following:
- Modify the project to avoid impacts on resources.
- Plan parks, green space, or other open space to incorporate resources.
- Recover the scientifically consequential information from the archaeological resource before any excavation at the resource's location. This typically consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the project.
- Develop and implement interpretive programs or displays.
- If it qualifies as a tribal cultural resource (per PRC Section 21074) implement measures for avoiding or reducing impacts such as the following:
- Avoid and preserve the resource in place through measures that include but are not limited to the following:
    - Plan and construct the project to avoid the resource and protect the cultural and natural context.
    - Plan greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
- Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, through measures that include but are not limited to the following:
    - Protect the cultural character and integrity of the resource.
    - Protect the traditional use of the resource.
    - Protect the confidentiality of the resource.
- Implement permanent conservation easements or other interests in real property, with cultural appropriate management criteria for the purposes of preserving or using the resource or place.

Mitigation Measure CUL-4: Implement Measures to Protect Human Remains during Project Construction or Operation. If human remains are encountered during construction or operation and maintenance of the Project, all work shall immediately halt within 100 feet of the find and DWR shall contact the appropriate county coroner to evaluate the remains and follow the procedures and protocols set forth in State CEQA Guidelines Section 15064.5(e)(1). If human remains encountered are on or in the tide and submerged lands of California, DWR shall also contact the California State Lands Commission. If the coroner determines that the remains are Native American in origin, the appropriate county shall contact the California Native American Heritage Commission, in accordance with California Health and Safety Code Section 7050.5(c) and PRC Section 5097.98. Per PRC Section 5097.98, DWR shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until DWR has discussed and conferred, as prescribed PRC Section 5097.98, with the most likely descendants and the property owner regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Mitigation Measure GEO-1: Include Geotechnical Design Recommendations

To minimize potential impacts from seismic events and the presence of adverse soil conditions, lead agencies shall ensure that geotechnical design recommendations are included in the design of facilities and construction specifications. Recommended measures to address adverse conditions shall conform to applicable design codes, guidelines, and standards.

Mitigation Measure GEO-3: Conduct Individual Restoration Project Geotechnical Investigation and Report

When a restoration project involves and warrants consideration of geotechnical factors and/or constraints (e.g., work on flood control levees, work in areas with certain soil types subject to liquefaction), the project proponent shall conduct and prepare a geotechnical report to address potential issues and concerns. The geotechnical report shall include a quantitative analysis to determine whether excavation or fill placement would result in a potential for damage due to soil subsidence during and/or after construction. Project designs shall incorporate measures to reduce the potential damage to a less-than-significant level. Measures shall include but not be limited to:

- Removal and recompaction of existing soils susceptible to subsidence
- Ground improvement (such as densification by compaction or grouting, soil cementation)
- Reinforcement of structural components to resist deformation due to subsidence

The assessment of subsidence for specific projects shall analyze the individual restoration projects potential for and severity of cyclic seismic loading. A geotechnical investigation shall also be performed by an appropriately licensed professional engineer and/or geologist to determine the presence and thickness of potentially liquefiable sands that could result in loss of bearing value during seismic shaking events. Project designs shall incorporate measures to mitigate potential damage to a less-than-significant level. Measures shall include but not be limited to:

- Ground improvement (such as grouting or soil cementation)
- Surcharge loading by placement of fill, excavation, soil mixing with non- liquefiable finer-grained materials, and replacement of liquefiable materials at shallow depths
- Reinforcement of structural components to resist deformation due to liquefaction

An analysis of individual restoration projects probable and credible seismic acceleration values, conducted in accordance with current applicable standards of care, shall be performed to provide for a suitable project design. Geotechnical investigations shall be performed, and geotechnical reports shall be prepared in the responsible care of California licensed geotechnical professionals including professional civil engineers, certified geotechnical engineers, professional geologists, certified engineering geologists, and certified hydrogeologists, all of whom practice within the current standards of care for such work.

Mitigation Measure GEO-4: Adhere to International Building Code

Constructed facilities shall be required to adhere to the current approved version of the International Building Code (IBC), and to comply with the IBC for critical structures (e.g., levees).

Mitigation Measure GEO-6: Implement Measures for Waterway Construction Activities

For projects that involve the engineered subsurface structural components (e.g., of surface impoundments, levees, bridge footings/abutments) project design shall provide for protection from leakage to the subsurface. Measures could include but are not limited to rendering concrete

less permeable by specifying concrete additives such as bentonite, designing impermeable liner systems, designing leakage collection and recovery systems, and constructing impermeable subsurface cutoff walls.

For restoration projects that could cause subsurface seepage of nuisance water onto adjacent lands, the following measures shall be implemented:

- Perform seepage monitoring studies by measuring the level of shallow groundwater in the adjacent soils, to evaluate baseline conditions. Continue monitoring for seepage during and after project implementation.
- Develop a seepage monitoring plan if subsurface seepage constitutes nuisance water on the adjacent land.

If it is determined that seepage from the restoration project is responsible for making adjacent lands not usable, implement seepage control measures, such as installing subsurface agricultural drainage systems to avoid raising water levels into crop root zones. Cutoff walls and pumping wells can also be used to mitigate the occurrence of subsurface nuisance water.

Mitigation Measure GEO-7: Implement Measures for Levee Construction and Other Fill Embankment Designs

For projects that involve the construction of setback levees, surface impoundments, and other fill embankments, the project design shall place fill in accordance with state and local regulations and the prevailing standards of care for such work. Measures could include but are not limited to blending the soils most susceptible to landsliding with soils that have higher cohesion characteristics; installing slope stabilization measures; designing top-of-slope berms or v-ditches, terrace drains, and other surface runoff control measures; and designing slopes at lower inclinations.

Mitigation Measure GEO-8: Assess the Presence of Highly Organic Soils

For projects that would result in a significant or potentially significant risk to structures because of the presence of highly organic soils, the lead agencies shall require a geotechnical evaluation before construction to identify measures to mitigate organic soils. The following measures may be considered:

- Over-excavation and import of suitable fill material.
- Structural reinforcement of constructed works to resist deformation.
- Construction of structural supports below the depth of highly organic soils into materials with suitable bearing strength.

Mitigation Measure GEO-9: Conduct a General Project-Level Analysis

Restoration projects implemented by other public proponents under the Order would be required to do a desktop search on whether the project site would be located in a paleontological sensitive unit. If the project site was determined to be located on a paleontological sensitive unit, then Mitigation Measure GEO-9 (and Mitigation Measure GEO-10, as applicable) would be implemented. If restoration projects implemented under the Order fall outside a paleontological sensitive unit, GEO-9 (and Mitigation Measure GEO-10) would be not be required.

During project development and project-level analysis, a paleontological resource monitoring and recovery plan shall be developed and implemented for all actions determined by the project

proponent to be located on a paleontological sensitive unit. The plan shall include protocols for paleontological resources monitoring in areas where construction-related excavation would affect sediment with moderate to high paleontological sensitivity.

The paleontological resource monitoring and recovery plan shall provide guidelines for the establishment of a yearly or biannual monitoring program led by a qualified paleontologist to determine the extent of fossiliferous sediment being exposed and affected by erosion, and determine whether paleontological resources are being lost. If the loss of scientifically significant paleontological resources is documented, then a recovery program should be implemented.

Mitigation Measure GEO-10: Conduct Worker Training

For projects that are determined to have moderate to high paleontological sensitivity, before the start of any ground-disturbing activity (e.g., excavation or clearing), a qualified paleontologist shall prepare paleontological resources sensitivity training materials for use during project worker environmental training or equivalent. This training shall be conducted by a qualified environmental trainer under the supervision of the qualified paleontologist. For restoration projects that involve construction crew phases, additional trainings shall be conducted for new construction personnel. The paleontological resource sensitivity training shall focus on the types of resources that could be encountered within the individual restoration project site and the procedures to follow if they are found. Project proponents and/or project contractors shall retain documentation demonstrating that all construction personnel attended the paleontological resource sensitivity training before the start of work on the site, and shall provide documentation to the project manager upon request.

Mitigation Measure HAZ-1: Prepare and Implement a Health and Safety Plan and Provide Qualified Oversight of Fill Removal Related to Earthmoving Activities

The following measures shall be implemented before and during construction of any restoration project permitted under the Order:

- A health and safety plan for the project shall be developed and implemented. This plan shall clearly notify all workers of the potential to encounter hazardous materials during ground-disturbing work and other construction activities. The plan shall identify proper handling and disposal procedures for contaminants expected to be on-site and shall provide maps and phone numbers for local hospitals and other emergency contacts. Construction workers shall comply with all protocols outlined in the health and safety plan throughout project implementation.
- Any hazardous materials being stored in the project area and not needed for construction activities shall be removed and disposed of at appropriately permitted locations before construction. A qualified professional (e.g., geologist or engineer) shall oversee fill excavation activities and work in potential project areas that contain abandoned underground storage tanks requiring removal, to properly identify any contaminated soils that may be present. Excavation of underground storage tanks must comply with county ordinances and policies. If contaminated soils are found, Mitigation Measure HAZ-2 shall be implemented.
- Removal of underground storage tanks associated with the restoration project shall include measures to ensure their safe transport and disposal. Remediation actions, if necessary, shall be defined in consultation with the local Regional Board and implemented during construction.

Mitigation Measure HAZ-2: Notify Appropriate Federal, State, and Local Agencies If Contaminated Soils Are Identified, and Complete Recommended Remediation Activities

The following measures shall be implemented before construction of any restoration project permitted under the Order if contaminated soils are found on the project site:

- The appropriate federal, state, and local agencies shall be notified if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during construction activities. Any contaminated areas shall be cleaned up in accordance with the recommendations of the Regional Board, DTSC, or other appropriate federal, state, or local regulatory agencies.
- A site plan shall be prepared for the remediation activities appropriate for the proposed land uses, including excavation and removal of on-site contaminated soils, and needed redistributions of clean fill material on the study area. The plan shall include measures to ensure the safe transport, use, and disposal of contaminated soil and building debris removed from the site. If ground-disturbing activities encounter contaminated groundwater, the construction contractor shall report the contamination to the appropriate agencies, dewater the area, and treat the groundwater to remove the contaminants before discharge into the sanitary sewer system. The construction contractor shall comply with the plan and applicable federal, state, and local laws. The plan shall outline specific procedures for handling and reporting of hazardous materials, and for disposing of hazardous materials removed from the site at an appropriate off-site facility.

Mitigation Measure HAZ-3: Notify Appropriate Federal, State, and Local Agencies If Accidental Discharges of Hazardous Materials Occur

Following an accidental discharge of a reportable quantity of a hazardous material or an unknown material, the appropriate federal, state, and local agencies shall be notified. Any contaminated areas shall be cleaned up in accordance with the recommendations of the Regional Board, DTSC, or other appropriate federal, state, or local regulatory agencies.

Mitigation Measure NOISE-1: Minimize Noise Conflicts

The following measures shall be implemented during construction of any restoration project permitted under the Order:

- Noise-generating activities shall follow the applicable general plan and/or noise ordinances for the jurisdiction located within the vicinity of the project.
- Construction equipment shall be located away from sensitive receptors, to the extent feasible, to reduce noise levels below applicable local standards.
- Construction equipment shall be maintained to manufacturers' recommended specifications, and all construction vehicles and equipment shall be equipped with appropriate mufflers and other approved noise-control devices.
- Idling of construction equipment shall be limited to the extent feasible to reduce the time that noise is emitted.
- An individual traffic noise analysis of identified haul routes shall be conducted and mitigation, such as reduced speed limits, shall be provided at locations where noise standards cannot be maintained for sensitive receptors.

- The project shall incorporate the use of temporary noise barriers, such as acoustical panel systems, between construction activities and sensitive receptors if it is concluded that they would be effective in reducing noise exposure to sensitive receptors.

Mitigation Measure TRA-1: Prepare Construction Traffic Management Plan

Before construction begins, the construction manager shall have a qualified professional prepare a construction traffic management plan. The plan shall provide the appropriate measures to reduce potential traffic obstructions or service level degradation at affected traffic facilities. The scope of the construction traffic management plan will depend on the type, size, and duration of the specific qualifying restoration project under the Order. The plan could include such measures as construction signage, flaggers for lane closures, and construction schedule and/or delivery schedule restrictions. The plan shall be submitted to the local public works department and implemented as appropriate throughout construction.

Mitigation Measure TRA-2: Prepare Waterway Traffic Control Plan

A waterway traffic control plan shall be prepared before project construction begins. The plan shall be followed throughout construction to ensure that vessels can navigate safely and efficiently during construction. The plan shall identify vessel traffic control measures to reduce congestion and navigation hazards to the extent feasible. Construction zones in waterways shall be barricaded or guarded by readily visible barriers or other effective measures to warn boaters of their presence and restricted access. Warning devices and signage shall comply with the California Uniform State Waterway Marking System and shall be operational during nighttime hours and periods of dense fog.

Mitigation Measure TRA-3: Develop Channel Closure Plan for Affected Facilities

Before construction begins in areas where temporary partial waterway closure is necessary, a temporary channel closure plan shall be developed. The plan shall identify alternative detour routes and procedures for notifying boaters of construction activities and partial closures including coordination with the U.S. Coast Guard, local boating organizations, and marinas. The channel closure plan shall be implemented as appropriate throughout construction.

Mitigation Measure TRA-4: Reduce Project Effects on Boat Passage and Transit Facilities

- To the extent feasible, the following actions shall be implemented to reduce impacts of project construction on boat passage and transit facilities:
- To the extent feasible, ensure that safe boat access to public launch and docking facilities, businesses, and residencies is maintained.
- Coordinate with transit system operators, as appropriate, to establish alternative transit system routes to be rerouted during construction.
- Provide boat passage as an integral component of operable gate facilities, and design such facilities to provide uninterrupted boat passage when the gates are in the “up” position. Floating docks with mooring bits shall be provided along the shoreline on both sides of the boat passage facilities for boaters to use while waiting.
- Before construction begins in areas where bridge closure may be necessary, develop a traffic plan that identifies traffic control measures to reduce congestion and provide alternative routes.

Mitigation Measure TRA-6: Reduce Emissions

- To comply with State CEQA Guidelines Section 15064.3(b), the following measures shall be taken to reduce effects associated with increased VMT [vehicle miles traveled]:
- Limit idling time for commercial vehicles, including delivery and construction activities.
- Use low- or zero-emissions vehicles, including construction vehicles.
- Institute a heavy-duty off-road vehicle plan and a construction vehicle inventory tracking system for construction projects.
- Promote ridesharing.
- Provide the necessary facilities and infrastructure to encourage the use of low- or zero-carbon emissions vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).
- Increase the cost of driving and parking private vehicles, such as by imposing tolls and parking fees.
- Provide a shuttle service to public transit and worksites.
- Provide information on all options for individuals and businesses to reduce transportation-related emissions.

Mitigation Measure TRA-7: Conduct Routine Inspections

- An inspection and operation plan shall be developed and implemented, where applicable. The plan shall include procedures for routine inspections and facility operation to allow safe navigation should the facility become damaged or malfunctions. This plan shall include the following specific components:
- Routine inspections and correction procedures to ensure that facility safety features are in good working order.
- Routine inspections and correction procedures for navigational hazards around facilities, including floating or submerged debris and the formation of shoals.

Mitigation Measure TRA-8: Repair Damaged Roadways and Trails Following Construction

- If damage to roads, sidewalks, trails, and/or medians occur, the construction contractor shall coordinate with the affected project proponents to ensure that any impacts are adequately repaired in accordance with applicable agency standards. Roads and/or driveways disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. The construction contractor shall work with the applicable agencies to document preconstruction conditions of road features before the start of construction.

Mitigation Measure TCR-1: Conduct Inventory and Significance Evaluation of Tribal Cultural Resources with Tribes that are Culturally and Geographically Affiliated with the Project Vicinity

Before implementation of any project permitted under the Order, the following shall be conducted: consultation with California Native American Tribes pursuant to PRC Section 21080.3; a cultural resources records search; a California Native American Heritage Commission

(NAHC) Sacred Lands File (SLF) search; and an inventory and significance evaluation of tribal cultural resources identified that could be impacted by the project. These tasks shall be conducted as follows.

- Project proponent shall submit an NAHC SLF & Native American Contacts List Request at the initial stages of project development (or as early as practicable) to determine if a project would have an impact on tribal cultural resources.
- Project proponent shall coordinate with the approving Water Board or other CEQA lead agency, if applicable, as soon as possible to identify California Native American Tribes that are traditionally and culturally affiliated to a project area. The CEQA lead agency shall then conduct Tribal consultation, pursuant to PRC Section 21080.3, and as soon as practicable during early design, with such Tribes to determine whether any tribal cultural resources could be affected by the project. Consultation will include discussion regarding project design, cultural resources surveys, identification of tribal cultural resources, protocols for construction monitoring, and any other Tribal concerns. Construction of the project will not commence until the approving Water Board or other CEQA lead agency achieves compliance with the California Environmental Protection Agency Tribal Consultation Protocol (April 2018) and consultation pursuant to PRC Section 21080.3 has been concluded. If potential tribal cultural resources that may be impacted by the project are identified through consultation with California Native American Tribes that are traditionally and culturally affiliated to a project area, the following shall be conducted:
    - Documentation of any tribal cultural resources identified in the project area, which may require additional tasks such as ethnographic research and interviews.
    - If tribal cultural resources are identified in a project area, develop, before project implementation and in coordination California Native American Tribes that are traditionally and culturally affiliated to a project area, an approach for reducing such impacts. If any such tribal cultural resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission.

Mitigation Measure TCR-2: Implement Measures to Protect Tribal Cultural Resources during Project Construction or Operation

These measures include, but are not limited to, those outlined in PRC Section 21084.3.

If tribal cultural resources or indigenous archaeological resources that may qualify as tribal cultural resources are encountered during project construction or operation of any project permitted under the Order, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. The lead agency, a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology, and California Native American Tribes that are traditionally and culturally affiliated to a project area shall be immediately informed of the discovery. The qualified archaeologist and representatives from the notified Native American Tribes shall inspect the discovery and notify the lead agency of their initial assessment.

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Appendix C
Air Quality Modeling

Construction Criteria Air Pollutant and Greenhouse Gas Calculations

Construction Emissions Summary

Unmitigated				
Construction Year	CAP Emissions Summary (pounds per day)			
	ROG	NOx	PM_{10}	$PM_{2.5}$
2027	4.06	**29.14**	36.86	6.34
2028	4.03	**28.63**	36.83	6.31
2029	3.96	**28.23**	36.83	6.29
FRAQMD Threshold	25	25	80	NA
Exceeds Threholds?	No	**Yes**	No	No

Mitigates using T4 Construction Equipment				
Construction Year	CAP Emissions Summary (pounds per day)			
	ROG	NOx	PM_{10}	$PM_{2.5}$
2027	1.86	12.89	36.17	5.72
2028	1.83	12.38	36.15	5.69
2029	1.77	11.98	36.14	5.66
FRAQMD Threshold	25	25	80	NA
Exceeds Threholds?	No	No	No	No

Construction Year	GHG Emissions Summary (MT per year)			
	CO_2	CH_4	N_2O	CO_2e
2027	1158.6	0.030	0.126	1196.7
2028	1151.1	0.030	0.129	1190.2
2029	1148.3	0.030	0.132	1188.5

NOTES:

1. Total emissions over 3 years of construction are averaged

2. Construction duration assumes a worst-case scenario of three 130-day construction windows (April 16 to October 31) for dry work and three 50-day construction windows (July 15 to September 30) for in-water work, working 5 days a week, 8 hours per day during those work windows. This equates to 183 days in each calendar year.

3. Estimates ocnservatively assume 2027 emission factors for all equipment.

Unmitigated Construction Equipment Emissions

Type of Equipment	Average Use (total hours)[1]	OFFROAD Equivalent Equipment	Fuel	Hp	Hp for EF Lookup	Hp-hrs	LF	EF Year	Emission Factors (g/hp-hr)				Emissions (tpy)				Emission Factors (g/hp-hr)			Emissions (MT per year)			
									ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Excavator	2,072	Excavators	Diesel	36	50	74592	0.38	2027	0.378	3.367	0.089	0.082	0.01	0.11	0.00	0.00	587.394	0.024	0.005	16.65	0.00	0.00	16.71
Crane	2,060	Cranes	Diesel	367	600	756020	0.29	2027	0.195	1.748	0.072	0.066	0.05	0.42	0.02	0.02	527.455	0.021	0.004	115.64	0.00	0.00	116.02
Dozer	3,120	Skid Steer Loaders	Diesel	71	75	221520	0.37	2027	0.129	1.753	0.047	0.043	0.01	0.16	0.00	0.00	528.655	0.021	0.004	43.33	0.00	0.00	43.47
Front-end loader	3,666	Tractors/Loaders/Backhoes	Diesel	84	100	307944	0.37	2027	0.177	1.807	0.054	0.05	0.02	0.23	0.01	0.01	529.618	0.021	0.004	60.34	0.00	0.00	60.54
Crawler loader	1,680	Skid Steer Loaders	Diesel	71	75	119280	0.37	2027	0.129	1.753	0.047	0.043	0.01	0.09	0.00	0.00	528.655	0.021	0.004	23.33	0.00	0.00	23.41
Barge	2,040		Diesel	Calculated separately under in-water equipment									-	-	-	-				0.00	0.00	0.00	0.00
Boat	1,200		Diesel										0.04	1.46	0.03	0.02				189.70	0.00	0.00	189.70
Water truck	4,086	Off-Highway Trucks	Diesel	376	600	1536336	0.38	2027	0.176	0.965	0.034	0.031	0.11	0.62	0.02	0.02	529.01	0.021	0.004	308.84	0.01	0.00	309.84
Generator	7,152	Generator Sets	Diesel	14	25	100128	0.74	2027	0.537	4.305	0.172	0.158	0.04	0.35	0.01	0.01	568.306	0.023	0.005	42.11	0.00	0.00	42.26
Dewatering pump	1,200	Pumps	Diesel	11	25	13200	0.74	2027	0.565	4.288	0.173	0.16	0.01	0.05	0.00	0.00	568.297	0.023	0.005	5.55	0.00	0.00	5.57
Temporary pump	3,120	Pumps	Diesel	11	25	34320	0.74	2027	0.565	4.288	0.173	0.16	0.02	0.12	0.00	0.00	568.297	0.023	0.005	14.43	0.00	0.00	14.49
Concrete mixing truck	1,536	Cement and Mortar Mixers	Diesel	10	25	15360	0.56	2027	0.553	4.198	0.163	0.15	0.01	0.04	0.00	0.00	570.32	0.023	0.005	4.91	0.00	0.00	4.92
Concrete pumping truck	1,408	Cement and Mortar Mixers	Diesel	10	25	14080	0.56	2027	0.553	4.198	0.163	0.15	0.00	0.04	0.00	0.00	570.32	0.023	0.005	4.50	0.00	0.00	4.51
Dump/haul/rock truck	3,564	Dumpers/Tenders	Diesel	16	25	57024	0.38	2027	0.57	4.361	0.163	0.15	0.01	0.10	0.00	0.00	572.007	0.023	0.005	12.39	0.00	0.00	12.44
Flatbed truck	1,468	Off-Highway Trucks	Diesel	376	600	551968	0.38	2027	0.176	0.965	0.034	0.031	0.04	0.22	0.01	0.01	529.01	0.021	0.004	110.96	0.00	0.00	111.32
Pickup truck	11,128	Off-Highway Trucks	Diesel	376	600	4184128	0.38	2027	0.176	0.965	0.034	0.031	0.31	1.69	0.06	0.05	529.01	0.021	0.004	841.11	0.03	0.01	843.84
Truck tractor	120	Off-Highway Tractors	Diesel	38	50	4560	0.44	2027	0.453	3.536	0.107	0.098	0.00	0.01	0.00	0.00	586.15	0.024	0.005	1.18	0.00	0.00	1.18
Hydromulcher	120	Other Material Handling Equipment	Diesel	93	100	11160	0.4	2027	0.176	1.853	0.056	0.051	0.00	0.01	0.00	0.00	528.708	0.021	0.004	2.36	0.00	0.00	2.37
Wood chipper	240	Other Material Handling Equipment	Diesel	93	100	22320	0.4	2027	0.176	1.853	0.056	0.051	0.00	0.02	0.00	0.00	528.708	0.021	0.004	4.72	0.00	0.00	4.74
Compactor	1,398	Rollers	Diesel	36	50	50328	0.38	2027	0.529	3.577	0.146	0.134	0.01	0.08	0.00	0.00	587.122	0.024	0.005	11.23	0.00	0.00	11.27
Concrete vibrator	1,368	Concrete/Industrial Saws	Diesel	33	50	45144	0.73	2027	0.39	3.43	0.071	0.065	0.01	0.12	0.00	0.00	574.332	0.023	0.005	18.93	0.00	0.00	19.00
Other handheld equipment (e.g., chain saw)	6,638	Other Construction Equipment	Diesel	82	100	544316	0.42	2027	0.252	2.5	0.132	0.122	0.06	0.63	0.03	0.03	527.442	0.021	0.004	120.58	0.00	0.00	120.97
Temporary river diversion pump system—submersible pump operation	10,080	Pumps	Diesel	11	25	110880	0.74	2027	0.565	4.288	0.173	0.16	0.05	0.39	0.02	0.01	568.297	0.023	0.005	46.63	0.00	0.00	46.80
Cofferdam dewatering pump system	672	Pumps	Diesel	11	25	7392	0.74	2027	0.565	4.288	0.173	0.16	0.00	0.03	0.00	0.00	568.297	0.023	0.005	3.11	0.00	0.00	3.12
Pile driver—structural foundation Piles	378	Other Construction Equipment	Diesel	82	100	30996	0.42	2027	0.252	2.5	0.132	0.122	0.00	0.04	0.00	0.00	527.442	0.021	0.004	6.87	0.00	0.00	6.89
Small boom truck	324	Off-Highway Trucks	Diesel	376	600	121824	0.38	2027	0.176	0.965	0.034	0.031	0.01	0.05	0.00	0.00	529.01	0.021	0.004	24.49	0.00	0.00	24.57
Welder	168	Welders	Diesel	46	50	7728	0.45	2027	0.435	3.466	0.079	0.073	0.00	0.01	0.00	0.00	568.297	0.023	0.005	1.98	0.00	0.00	1.98
TOTAL													0.85	7.07	0.24	0.22				2,035.86	0.07	0.01	2,041.92

Construtions Year	CAP Emissions Summary (tons per year)				GHG Emissions Summary (MT per year)			
	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
2027	0.28	2.35	0.08	0.07	677.39	0.02	0.00	679.40
2028	0.28	2.35	0.08	0.07	677.39	0.02	0.00	679.40
2029	0.28	2.37	0.08	0.07	681.09	0.02	0.00	683.12
TOTAL	0.85	7.07	0.24	0.22	2035.86	0.07	0.01	2041.92

Construtions Year	Number of Workdays	CAP Emissions Summary (pounds per day)			
		ROG	NOx	PM_{10}	$PM_{2.5}$
2027	183	3.1	25.7	0.9	0.8
2028	183	3.1	25.7	0.9	0.8
2029	184	3.1	25.7	0.9	0.8

Dry work	4/16/2027	10/11/2027	127	178	12/27/2027
In-water work	7/15/2027	9/30/2027	56	77	
Total workdays in 2027			183		
Dry work	4/16/2028	10/11/2028	128	178	12/27/2028
In-water work	7/15/2028	9/30/2028	55	77	
Total workdays in 2028			183		
Dry work	4/16/2029	10/11/2029	129	178	12/27/2029
In-water work	7/15/2029	9/30/2029	55	77	
Total workdays in 2029			184		

NOTES:

1. Duration assumes a worst-case scenario of three 130-day construction windows (April 16 to October 31) for dry work and three 50-day construction windows (July 15 to September 30) for in-water work, working 5 days a week, 8 hours per day during those work windows.

Source: Equipment types and activitiy level based on Project Description Table 2-4

Mitigated Construction Equipment Emissions with Tier 4 Equipment

Type of Equipment	Average Use (total hours)[1]	OFFROAD Equivalent Equipment	Fuel	Tier	Hp	Hp for EF Lookup	Hp-hrs	LF	EF Year	Tier 4F Emission Factors (g/hp-hr)				Tier 4F Emissions (tpy)				Emission Factors (g/hp-hr)			Emissions (MT per year)			
										ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	CO_2e
Excavator	2,072	Excavators	Diesel	Tier 4 Final	36	49	74592	0.38	2027	0.09	2.75	0.01	0.01	0.00	0.09	0.00	0.00	587.394	0.024	0.005	16.65	0.00	0.00	16.71
Crane	2,060	Cranes	Diesel	Tier 4 Final	367	599	756020	0.29	2027	0.05	0.26	0.01	0.01	0.01	0.06	0.00	0.00	527.455	0.021	0.004	115.64	0.00	0.00	116.02
Dozer	3,120	Skid Steer Loaders	Diesel	Tier 4 Final	71	74	221520	0.37	2027	0.09	2.74	0.01	0.01	0.01	0.25	0.00	0.00	528.655	0.021	0.004	43.33	0.00	0.00	43.47
Front-end loader	3,666	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	84	119	307944	0.37	2027	0.05	0.26	0.01	0.01	0.01	0.03	0.00	0.00	529.618	0.021	0.004	60.34	0.00	0.00	60.54
Crawler loader	1,680	Skid Steer Loaders	Diesel	Tier 4 Final	71	74	119280	0.37	2027	0.09	2.74	0.01	0.01	0.00	0.13	0.00	0.00	528.655	0.021	0.004	23.33	0.00	0.00	23.41
Barge	2,040		Diesel	Tier 4	Calculated separately under in-water equipment									-	-	-	-				0.00	0.00	0.00	0.00
Boat	1,200		Diesel	Tier 4										0.04	0.38	0.01	0.01				182.41	0.00	0.00	182.41
Water truck	4,086	Off-Highway Trucks	Diesel	Tier 4 Final	376	599	1536336	0.38	2027	0.05	0.26	0.01	0.01	0.03	0.17	0.01	0.01	529.01	0.021	0.004	308.84	0.01	0.00	309.84
Generator	7,152	Generator Sets	Diesel	Tier 4 Final	14	49	100128	0.74	2027	0.09	2.75	0.01	0.01	0.01	0.22	0.00	0.00	568.306	0.023	0.005	42.11	0.00	0.00	42.26
Dewatering pump	1,200	Pumps	Diesel	Tier 4 Final	11	49	13200	0.74	2027	0.09	2.75	0.01	0.01	0.00	0.03	0.00	0.00	568.297	0.023	0.005	5.55	0.00	0.00	5.57
Temporary pump	3,120	Pumps	Diesel	Tier 4 Final	11	49	34320	0.74	2027	0.09	2.75	0.01	0.01	0.00	0.08	0.00	0.00	568.297	0.023	0.005	14.43	0.00	0.00	14.49
Concrete mixing truck	1,536	Cement and Mortar Mixers	Diesel	Tier 4 Final	10	49	15360	0.56	2027	0.09	2.75	0.01	0.01	0.00	0.03	0.00	0.00	570.32	0.023	0.005	4.91	0.00	0.00	4.92
Concrete pumping truck	1,408	Cement and Mortar Mixers	Diesel	Tier 4 Final	10	49	14080	0.56	2027	0.09	2.75	0.01	0.01	0.00	0.02	0.00	0.00	570.32	0.023	0.005	4.50	0.00	0.00	4.51
Dump/haul/rock truck	3,564	Dumpers/Tenders	Diesel	Tier 4 Final	16	49	57024	0.38	2027	0.09	2.75	0.01	0.01	0.00	0.07	0.00	0.00	572.007	0.023	0.005	12.39	0.00	0.00	12.44
Flatbed truck	1,468	Off-Highway Trucks	Diesel	Tier 4 Final	376	599	551968	0.38	2027	0.05	0.26	0.01	0.01	0.01	0.06	0.00	0.00	529.01	0.021	0.004	110.96	0.00	0.00	111.32
Pickup truck	11,128	Off-Highway Trucks	Diesel	Tier 4 Final	376	599	4184128	0.38	2027	0.05	0.26	0.01	0.01	0.09	0.46	0.02	0.02	529.01	0.021	0.004	841.11	0.03	0.01	843.84
Truck tractor	120	Off-Highway Tractors	Diesel	Tier 4 Final	38	49	4560	0.44	2027	0.09	2.75	0.01	0.01	0.00	0.01	0.00	0.00	586.15	0.024	0.005	1.18	0.00	0.00	1.18
Hydromulcher	120	Other Material Handling Equipment	Diesel	Tier 4 Final	93	119	11160	0.4	2027	0.05	0.26	0.01	0.01	0.00	0.00	0.00	0.00	528.708	0.021	0.004	2.36	0.00	0.00	2.37
Wood chipper	240	Other Material Handling Equipment	Diesel	Tier 4 Final	93	119	22320	0.4	2027	0.05	0.26	0.01	0.01	0.00	0.00	0.00	0.00	528.708	0.021	0.004	4.72	0.00	0.00	4.74
Compactor	1,398	Rollers	Diesel	Tier 4 Final	36	49	50328	0.38	2027	0.09	2.75	0.01	0.01	0.00	0.06	0.00	0.00	587.122	0.024	0.005	11.23	0.00	0.00	11.27
Concrete vibrator	1,368	Concrete/Industrial Saws	Diesel	Tier 4 Final	33	49	45144	0.73	2027	0.09	2.75	0.01	0.01	0.00	0.10	0.00	0.00	574.332	0.023	0.005	18.93	0.00	0.00	19.00
Other handheld equipment (e.g., chain saw)	6,638	Other Construction Equipment	Diesel	Tier 4 Final	82	119	544316	0.42	2027	0.05	0.26	0.01	0.01	0.01	0.07	0.00	0.00	527.442	0.021	0.004	120.58	0.00	0.00	120.97
Temporary river diversion pump system—submersible pump operation	10,080	Pumps	Diesel	Tier 4 Final	11	49	110880	0.74	2027	0.09	2.75	0.01	0.01	0.01	0.25	0.00	0.00	568.297	0.023	0.005	46.63	0.00	0.00	46.80
Cofferdam dewatering pump system	672	Pumps	Diesel	Tier 4 Final	11	49	7392	0.74	2027	0.09	2.75	0.01	0.01	0.00	0.02	0.00	0.00	568.297	0.023	0.005	3.11	0.00	0.00	3.12
Pile driver—structural foundation Piles	378	Other Construction Equipment	Diesel	Tier 4 Final	82	119	30996	0.42	2027	0.05	0.26	0.01	0.01	0.00	0.00	0.00	0.00	527.442	0.021	0.004	6.87	0.00	0.00	6.89
Small boom truck	324	Off-Highway Trucks	Diesel	Tier 4 Final	376	599	121824	0.38	2027	0.05	0.26	0.01	0.01	0.00	0.01	0.00	0.00	529.01	0.021	0.004	24.49	0.00	0.00	24.57
Welder	168	Welders	Diesel	Tier 4 Final	46	49	7728	0.45	2027	0.09	2.75	0.01	0.01	0.00	0.01	0.00	0.00	568.297	0.023	0.005	1.98	0.00	0.00	1.98
TOTAL														0.25	2.60	0.05	0.05				2,028.56	0.07	0.01	2,034.63

Construtions Year	CAP Emissions Summary (tons per year)				GHG Emissions Summary (MT per year)			
	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
2027	0.08	0.87	0.02	0.02	674.96	0.02	0.00	676.98
2028	0.08	0.87	0.02	0.02	674.96	0.02	0.00	676.98
2029	0.08	0.87	0.02	0.02	678.65	0.02	0.00	680.67
TOTAL	0.25	2.60	0.05	0.05	2028.56	0.07	0.01	2034.63

Construtions Year	Number of Workdays	CAP Emissions Summary (pounds per day)			
		ROG	NOx	PM_{10}	$PM_{2.5}$
2027	183	0.90	9.47	0.17	0.17
2028	183	0.90	9.47	0.17	0.17
2029	184	0.90	9.47	0.17	0.17

Dry work	4/16/2027	10/11/2027	127
In-water work	7/15/2027	9/30/2027	56
Total workdays in 2027			183

Dry work	4/16/2028	10/11/2028	128
In-water work	7/15/2028	9/30/2028	55
Total workdays in 2028			183

Dry work	4/16/2029	10/11/2029	129
In-water work	7/15/2029	9/30/2029	55
Total workdays in 2029			184

NOTES:

1. Duration assumes a worst-case scenario of three 130-day construction windows (April 16 to October 31) for dry work and three 50-day construction windows (July 15 to September 30) for in-water work, working 5 days a week, 8 hours per day during those work windows.

Source: Equipment types and activitiy level based on Project Description Table 2-4

In-water Equipment Emissions

Type of Equipment	Average Use (total hours)[1]	Assumed Equipment Type	Assumed Hp	Total hp-hr	Total kWh	Load Factor	Tier 3 Emission Factors (g/kWh)					Tier 3 Emissions (tons)				(MT)
							ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2
Barge	2,040	No engine	0	0	0	0.52						0.00	0.00	0.00	0.00	0.00
Boat	1,200	Tugboat	600	720000	536904	0.52	0.125	4.7	0.083	0.080	679.5	0.04	1.46	0.03	0.02	189.70
TOTAL												0.04	1.46	0.03	0.02	189.70

Type of Equipment	Average Use (total hours)[1]	Assumed Equipment Type	Assumed Hp	Total hp-hr	Total kWh	Load Factor	Tier 3 Emission Factors (g/kWh)					Tier 3 Emissions (tons)				(MT)
							ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2
Barge	2,040	No engine	0	0	0	0.5						0.00	0.00	0.00	0.00	0.00
Boat	1,200	Tugboat	600	720000	536904	0.5	0.125	1.3	0.030	0.029	679.5	0.04	0.38	0.01	0.01	182.41
TOTAL												0.04	0.38	0.01	0.01	182.41

Tier	NOx (g/kWh)	PM_{10} (g/kWh)	$PM_{2.5}$ (g/kWh)	VOC (g/kWh)	CO (g/kWh)	CO_2 (g/kWh)	SO_2 (g/kWh)
Tier 0	10.28152	0.258902	0.251135	0.295615	1.612632	679.47	0.006246
Tier 1	9.624039	0.258902	0.251135	0.295615	1.61	679.47	0.006246
Tier 2	5.642273	0.148049	0.143608	0.295615	0.918732	679.47	0.006246
Tier 3	4.749214	0.082975	0.080486	0.124798	0.918732	679.47	0.006246
Tier 4	1.3	0.03	0.0291	0.124798	0.918732	679.47	0.006246

Source: Table H.7 - Average Harbor Craft Emission Factors, EPA Port Emissions Inventory Guidance

Ship Type	Propulsion Engine Load Factor	Auxiliary Engine Load Factor
Barge		0.43
Crew and Supply	0.45	0.43
Excursion	0.42	0.43
Fishing (C1/C2)	0.52	0.43
Government	0.45	0.43
Harbor Ferry (C1/C2)	0.42	0.43
Miscellaneous (C1/C2)	0.52	0.43
Pilot	0.51	0.43
Towboat/Pushboat	0.68	0.43
Tugboat	0.5	0.43
Work Boat	0.45	0.43

Source: Table 4.4 - Default Harbor Craft Propulsion and Auxiliary Engine Load Factors, EPA Port Emissions Inventory Guidance

Onroad Emissions

Source: EMFAC2025 (v2.0.0) Emission Rates
Region Type: Air District
Region: Feather River AQMD
Calendar Year: 2026, 2027
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN.

LDA	Gas	0.5
LDT1	Gas	0.125
LDT1	Diesel	0.125
LDT2	Gas	0.125
LDT2	Diesel	0.125
HHDT	Diesel	1

Region	Calendar Year	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_DIURN	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Feather River AQMD	2027	HHDT	Aggregate	Aggregate	Diesel	1794.5855	250794.883	250794.883	0	32092.1996	0.876357	40.84797323	1.9718071	0.0160937	0.022478	0	0.008877407	0.026717987	0.016821	0.023494	0	0.03551	0.076337	0.013583	7.842315	0	0	0	0	1491.784056	17126.40913	0	0.000630896	0.364255214	0	0.397191179	0	0
Feather River AQMD	2027	LDA	Aggregate	Aggregate	Gasoline	51307.648	1475008.269	1475008.269	0	219138.9159	0.068342	0	0.190085897	0.0029733	0	0.001942	0.002000001	0.002139556	0.003228	0	0.002109	0.008	0.006113	0.033611	0	0.290387	0.241738	0.293291	2.442657797	311.1647538	0	69.37850953	0.007154258	0	0.0503866	0.006657726	0	0.01749156
Feather River AQMD	2027	LDT1	Aggregate	Aggregate	Gasoline	6806.4401	153989.6713	153989.6713	0	25555.58235	0.279387	0	0.487646288	0.0038568	0	0.003487	0.002000001	0.002742047	0.004181	0	0.003788	0.008	0.007834	0.088345	0	0.786183	0.536163	0.833032	5.390734357	372.931296	0	93.21609356	0.017598941	0	0.11752885	0.018189716	0	0.03273778
Feather River AQMD	2027	LDT1	Aggregate	Aggregate	Diesel	2.6324423	41.16908421	41.16908421	0	8.670625727	0.525845	0	0	0.0873436	0	0	0.002000001	0.002902046	0.091293	0	0	0.008	0.008292	0.115519	0	0	0	0	0	460.5704696	0	0	0.005365626	0	0	0.281332796	0	0
Feather River AQMD	2027	LDT2	Aggregate	Aggregate	Gasoline	29985.876	966635.6827	966635.6827	0	140814.8578	0.076373	0	0.252886605	0.0027151	0	0.001805	0.002000001	0.002577129	0.00295	0	0.001962	0.008	0.007363	0.026036	0	0.31504	0.15053	0.263307	2.00963798	367.7040717	0	83.69317333	0.006374621	0	0.0538449	0.007011625	0	0.019793239
Feather River AQMD	2027	LDT2	Aggregate	Aggregate	Diesel	68.253051	2270.490217	2270.490217	0	331.4850599	0.053275	0	0	0.0055504	0	0	0.002000001	0.002605848	0.005801	0	0	0.008	0.007445	0.018797	0	0	0	0	0	327.5277336	0	0	0.000837064	0	0	0.390519664	0	0
Feather River AQMD	2028	HHDT	Aggregate	Aggregate	Diesel	1790.2782	253331.9131	253331.9131	0	32201.76346	0.762195	35.69380347	1.731572514	0.0153168	0.020784	0	0.00888131	0.026850344	0.016009	0.021723	0	0.035525	0.076715	0.013197	7.914242	0	0	0	0	1466.015644	17003.05857	0	0.000621982	0.367596064	0	0.397811745	0	0
Feather River AQMD	2028	LDA	Aggregate	Aggregate	Gasoline	50070.762	1441080.317	1441080.317	0	213563.4286	0.064257	0	0.178111594	0.0028767	0	0.001889	0.002000001	0.002139539	0.003123	0	0.002052	0.008	0.006113	0.032155	0	0.27335	0.23706	0.292263	2.44541889	306.4609386	0	68.24633596	0.006830691	0	0.04776845	0.006342376	0	0.016685562
Feather River AQMD	2028	LDT1	Aggregate	Aggregate	Gasoline	6625.6629	149381.5821	149381.5821	0	24798.1069	0.263073	0	0.46406918	0.0037388	0	0.003367	0.002000001	0.002743116	0.004053	0	0.003657	0.008	0.007837	0.085	0	0.74909	0.528296	0.823725	5.391940488	368.5686707	0	91.76893877	0.016849852	0	0.11235452	0.017230603	0	0.031442367
Feather River AQMD	2028	LDT1	Aggregate	Aggregate	Diesel	1.7437073	32.04880781	32.04880781	0	6.218795695	0.317444	0	0	0.0534721	0	0	0.002000001	0.002921267	0.05589	0	0	0.008	0.008346	0.095949	0	0	0	0	0	461.0434777	0	0	0.004456629	0	0	0.325581019	0	0
Feather River AQMD	2028	LDT2	Aggregate	Aggregate	Gasoline	30103.109	970194.8548	970194.8548	0	141230.0936	0.069046	0	0.230036451	0.002604	0	0.001738	0.002000001	0.002585064	0.002829	0	0.001889	0.008	0.007386	0.02442	0	0.292345	0.143776	0.253007	1.945402691	361.3410004	0	82.00545698	0.006004042	0	0.05050837	0.006557034	0	0.018556436
Feather River AQMD	2028	LDT2	Aggregate	Aggregate	Diesel	67.457469	2220.874971	2220.874971	0	327.1145007	0.043665	0	0	0.0044139	0	0	0.002000001	0.002605791	0.004614	0	0	0.008	0.007445	0.017402	0	0	0	0	0	318.7719071	0	0	0.000808288	0	0	0.392913054	0	0
Feather River AQMD	2029	HHDT	Aggregate	Aggregate	Diesel	1777.1505	255773.851	255773.851	0	32106.33425	0.692915	32.59488186	1.598590644	0.0150378	0.019815	0	0.008883657	0.026992044	0.015718	0.020711	0	0.035535	0.07712	0.012864	7.972974	0	0	0	0	1442.402494	16867.78351	0	0.000597497	0.370323984	0	0.398326149	0	0
Feather River AQMD	2029	LDA	Aggregate	Aggregate	Gasoline	48534.226	1394242.138	1394242.138	0	206797.5626	0.060982	0	0.167988443	0.0027841	0	0.001837	0.002000001	0.002140467	0.003022	0	0.001995	0.008	0.006116	0.030758	0	0.258908	0.231113	0.289005	2.437459506	302.3510379	0	67.25409254	0.006545784	0	0.04553082	0.006089612	0	0.015992076
Feather River AQMD	2029	LDT1	Aggregate	Aggregate	Gasoline	6442.158	144770.4973	144770.4973	0	24073.51578	0.246726	0	0.440962122	0.0036151	0	0.003242	0.002000001	0.002744314	0.003919	0	0.003522	0.008	0.007841	0.081185	0	0.71314	0.514464	0.803554	5.340061032	364.028018	0	90.32776998	0.016068505	0	0.10734	0.016294956	0	0.030175125
Feather River AQMD	2029	LDT1	Aggregate	Aggregate	Diesel	0.91831	24.33020148	24.33020148	0	3.964521015	0.090561	0	0	0.0143708	0	0	0.002000001	0.002904231	0.015021	0	0	0.008	0.008298	0.034981	0	0	0	0	0	466.7838984	0	0	0.001624792	0	0	0.385035079	0	0
Feather River AQMD	2029	LDT2	Aggregate	Aggregate	Gasoline	30122.669	969302.8535	969302.8535	0	141147.4383	0.062791	0	0.21013645	0.0024938	0	0.001671	0.002000001	0.002593518	0.00271	0	0.001816	0.008	0.00741	0.022851	0	0.271663	0.1363	0.239554	1.862439691	355.340909	0	80.4335083	0.005651275	0	0.04742291	0.006161132	0	0.017453868
Feather River AQMD	2029	LDT2	Aggregate	Aggregate	Diesel	67.039474	2175.594876	2175.594876	0	323.3910688	0.040183	0	0	0.0042188	0	0	0.002000001	0.002601251	0.00441	0	0	0.008	0.007432	0.016667	0	0	0	0	0	310.6531247	0	0	0.00077414	0	0	0.393920656	0	0

							NOx	NOx	NOx	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM10	PM10	PM10	PM10	PM10	ROG	ROG	ROG	ROG	ROG	ROG	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O
	TPY	g/ton	907185				g/mi	g/vehicle/da	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/mi	g/mi	g/vehicle/day	g/trip	g/mi	g/mi	g/mi	/vehicle/da	g/trip	g/trip	g/trip	/vehicle/da	g/trip	g/mi	/vehicle/da	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip
	PPD	lbs/ton	2000		g/mi	g/vehicle/da	g/trip																											
		Annual	One-Way	mi	tot mi	tot veh	tot trip	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_DIURN	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
3	2027	HHDT	2,778	60	166,667	1,389	2,778	0.161002989	0.0625377	0.006037624	0.002957	3.44129E-05	0	0.0016309	0.004909	0.00309	3.59689E-05	0	0.006524	0.014025	0.002495	0.012006	0	0	0	0	274.07	26.2	0	0.00012	0	0	0.1	0	0	0	0	0
4	2027	LDA	11,895	20	237,900	5,948	11,895	0.017922041	0	0.002492404	0.00078	0	2.54574E-05	0.0005245	0.000561	0.000846	0	2.76553E-05	0.002098	0.001603	0.008414	0	0.003808	0.00317	0.003846	0.016014	81.60	0	0.90969	0.00188	0	0.00066	0.00175	0	0.00023	0	0	0.00023
5	2027	LDT1	2,974	20	59,475	1,487	2,974	0.018316568	0	0.001598503	0.000253	0	1.14315E-05	0.0001311	0.00018	0.000274	0	1.24175E-05	0.000524	0.000514	0.005792	0	0.002577	0.001758	0.002731	0.008835	24.45	0	0.30556	0.00115	0	0.00039	0.00119	0	0.00011	0	0	0.00011
6	2027	LDT1	2,974	20	59,475	1,487	2,974	0.034474379	0	0	0.005726	0	0	0.0001311	0.00019	0.005985	0	0	0.000524	0.000544	0.007573	0	0	0	0	0	30.19	0	0	0.00035	0	0	0.01844	0	0	0	0	0
7	2027	LDT2	2,974	20	59,475	1,487	2,974	0.005007032	0	0.000828962	0.000178	0	5.91833E-06	0.0001311	0.000169	0.000193	0	6.43241E-06	0.000524	0.000483	0.001707	0	0.001033	0.000493	0.000863	0.003294	24.11	0	0.27435	0.00042	0	0.00018	0.00046	0	6.4882E-05	0	0	0
8	2027	LDT2	2,974	20	59,475	1,487	2,974	0.003492714	0	0	0.000364	0	0	0.0001311	0.000171	0.00038	0	0	0.000524	0.000488	0.001232	0	0	0	0	0	21.47	0	0	5.7238E-05	0	0	0.02560	0	0	0	0	0
9	2028	HHDT	2,778	60	166,667	1,389	2,778	0.140029324	0.0546468	0.005302032	0.002814	3.18193E-05	0	0.0016317	0.004933	0.002941	3.3258E-05	0	0.006527	0.014094	0.002425	0.012117	0	0	0	0	269.33	26.0	0	0.00011	0	0	0.1	0	0	0	0	0
10	2028	LDA	11,895	20	237,900	5,948	11,895	0.016850617	0	0.002335397	0.000754	0	2.47667E-05	0.0005245	0.000561	0.000819	0	2.69052E-05	0.002098	0.001603	0.008432	0	0.003584	0.003108	0.003832	0.016032	80.37	0	0.89485	0.00179	0	0.00063	0.00166	0	0.00022	0	0	0.00022
11	2028	LDT1	2,974	20	59,475	1,487	2,974	0.017247057	0	0.001521218	0.000245	0	1.1036E-05	0.0001311	0.00018	0.000266	0	1.19877E-05	0.000524	0.000514	0.005573	0	0.002456	0.001732	0.0027	0.008837	24.16	0	0.30082	0.00110	0	0.00037	0.00113	0	0.00010	0	0	0.00010
12	2028	LDT1	2,974	20	59,475	1,487	2,974	0.020811611	0	0	0.003506	0	0	0.0001311	0.000192	0.003664	0	0	0.000524	0.000547	0.00629	0	0	0	0	0	30.23	0	0	0.00029	0	0	0.02135	0	0	0	0	0
13	2028	LDT2	2,974	20	59,475	1,487	2,974	0.004526659	0	0.000754059	0.000171	0	5.6964E-06	0.0001311	0.000169	0.000185	0	6.19127E-06	0.000524	0.000484	0.001601	0	0.000958	0.000471	0.000829	0.003189	23.69	0	0.26881	0.00039	0	0.00017	0.00043	0	6.0828E-05	0	0	0
14	2028	LDT2	2,974	20	59,475	1,487	2,974	0.002862668	0	0	0.000289	0	0	0.0001311	0.000171	0.000302	0	0	0.000524	0.000488	0.001141	0	0	0	0	0	20.90	0	0	5.29913E-05	0	0	0.02576	0	0	0	0	0
15	2029	HHDT	2,778	60	166,667	1,389	2,778	0.127301307	0.0499024	0.004894845	0.002763	3.03371E-05	0	0.0016321	0.004959	0.002888	3.17088E-05	0	0.006528	0.014168	0.002363	0.012207	0	0	0	0	265.00	25.8	0	0.00011	0.00057	0	0.07318	0	0	0	0	0
16	2029	LDA	11,895	20	237,900	5,948	11,895	0.015991987	0	0.002202663	0.00073	0	2.40806E-05	0.0005245	0.000561	0.000793	0	2.61606E-05	0.002098	0.001604	0.008066	0	0.003395	0.00303	0.003789	0.01598	79.29	0	0.88183	0.00172	0	0.00060	0.00160	0	0.00021	0	0	0.00021
17	2029	LDT1	2,974	20	59,475	1,487	2,974	0.016175368	0	0.001445473	0.000237	0	1.06273E-05	0.0001311	0.00018	0.000257	0	1.15437E-05	0.000524	0.000514	0.005323	0	0.002338	0.001686	0.002634	0.008752	23.87	0	0.29609	0.00105	0	0.00035	0.00107	0	0.00010	0	0	0.00010
18	2029	LDT1	2,974	20	59,475	1,487	2,974	0.005937206	0	0	0.000942	0	0	0.0001311	0.00019	0.000985	0	0	0.000524	0.000544	0.002293	0	0	0	0	0	30.60	0	0	0.00011	0	0	0.02524	0	0	0	0	0
19	2029	LDT2	2,974	20	59,475	1,487	2,974	0.004116568	0	0.000688827	0.000163	0	5.47775E-06	0.0001311	0.00017	0.000178	0	5.95375E-06	0.000524	0.000486	0.001498	0	0.000891	0.000447	0.000785	0.003053	23.30	0	0.26366	0.00037	0	0.00016	0.00040	0	5.7214E-05	0	0	0
20	2029	LDT2	2,974	20	59,475	1,487	2,974	0.002634408	0	0	0.000277	0	0	0.0001311	0.000171	0.000289	0	0	0.000524	0.000487	0.001093	0	0	0	0	0	20.37	0	0	5.07526E-05	0	0	0.02583	0	0	0	0	0

Year	CAP Emissions in TPY				GHG Emissions in MTPY			
	ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
2027	0.09	0.31	0.04	0.02	483.60	0.01	0.12	519.75
2028	0.09	0.27	0.04	0.02	476.17	0.01	0.12	513.20
2029	0.08	0.23	0.03	0.01	469.68	0.01	0.13	507.86

GHG	CO_2	CH_4	N_2O
GWP	1	25	298

1 ton =	907,185	g
1 ton =	2,000	lbs
1 MT =	1,000,000	g

Year	Workdays	CAP Emissions in PPD			
		ROG	NOx	PM_{10}	$PM_{2.5}$
2027	183	1.0	3.4	0.4	0.2
2028	183	0.9	2.9	0.4	0.2
2029	184	0.9	2.5	0.4	0.2

DPM for HRA (tpy)	
2027	0.003
2028	0.003
2029	0.003

Truck capacity (specified by client) 12 cy

TRUCK TRIPS			
Exported material	**Quantity (CY)**	**Total number of trucks**	**Total number of one way trips**
Left bank knob	20000	1,667	**3,333**
Weir (debris plus scour hole fill)	10000	833	**1,667**
Wet well	2000	167	**333**
Vegetation, trees & debris	3000	250	**500**
Total Export	35000	2,917	**5,833**
Imported Material			
Temp access and workpad	8000	667	**1,333**
VSRP and rock toe	5000	417	**833**
Bedding material	900	75	**150**
Gravel for maintenance road	300	25	**50**
Miscellaneous	800	67	**133**
Total Import	15000	1,250	**2,500**

Total one way trips over construction	8,333
Number of years of construction	3
Total one way trips per year	**2,778**

WORKER TRIPS	
Max daily workers	65
Max daily one way trips	130
Max annual one way trips	23,790

AP42 Emissions Calculations for Off-Site Fugitive Dust Emissions from Heavy Duty Trucks

Accounts for trucks driving to and from the site

Background Information

Conversions

Tons	Pounds	Grams
1	2000	907185

Mile	Feet
1	5280

Year	Day
1	183

Vehicle Weight

40000	pounds
20	tons

NOTE: assume half loaded truck trailer, one way to site full, one way from site empty

CA Vehicle Code - VEH
Div 15, Ch 5, Art 1, 35551

Roadway Travel Fractions

County	Yuba
Freeway	0.24
Major	0.38
Collector	0.17
Local	0.21

SOURCE:
CARB MPM 7.9, March 2021, Table 2

Silt Loadings

County	Yuba
Freeway	0.015
Major	0.032
Collector	0.032
Local	0.32

SOURCE:
CARB MPM 7.9, March 2021, Table 4

Construction Trips

		Annual One-Way Trips	Trip Length (mi)	VMT/Year
Composite	2027	23,790	60	1,427,400
Silt Load	2028	23,790	60	1,427,400
0.0884	2029	23,790	60	1,427,400

AP42 Paved Roads - Re-entrained PAVED Road Dust and Emission Factors for PM10

Calculation Methodology: CARB Miscellaneous Process Methodology - Paved Road Dust, March 2021. This methodology is based on USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011.
USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011
http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf
2021_paved_roads_7_9.pdf (ca.gov)

Road Dust Equation	E [lb/VMT] = k*(sL)^0.91 * (W)^1.02 * (1-P/4N)	

Variables	PM_{10}	PM_{10}	PM_{10}	Where:	Source:
				E = the particulate emission factor in units of pounds of particulate matter per VMT	*calculation*
k (lb/VMT)	0.0022	0.0022	0.0022	k = the U.S. EPA AP-42 particle size multiplier (PM10 = 0.0022 lb/VMT)	*Table 13.2.1-1, USEPA AP-42 Section 13.2.1, revised January 2011*
sL	0.0884	0.0884	0.0884	sL = the roadway-specific silt loading in grams/square meter (g/m2)	*Calculated above (silt loading factor)*
W	20	20	20	W = the maximum weight of fully loaded tractor trailer traveling the road (California Vehicle Code = 40 tons)	*CA Vehicle Code VEH Div 15, Ch 5, Art 1, 35551*
P	81	81	81	P = number of "wet" days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period	*Table 5 of CARB MPM 7.9, 2021*
N	183	183	184	N = the number of days in the annual averaging period (default = 365)	annual days (365)

PM_{10} Emission Factor

2027		2028		2029	
0.004568933	lbs/mi	0.004569	lbs/mi	0.004572	lbs/mi

Fugitive Dust Emissions of PM10

2027		2028		2029	
lb/year	PM_{10}	lb/year	PM_{10}	lb/year	PM_{10}
	6,522		6,521.69		6,526.10
PPD	**PM_{10}**	**PPD**	**PM_{10}**	**PPD**	**PM_{10}**
	35.57		**35.57**		**35.60**
TPY	PM_{10}	TPY	PM_{10}	TPY	PM_{10}
	3.260847		3.26		3.2630522

CARB Miscellaneous Process Methodology - Paved Road Dust - Emission Factors for PM2.5

Calculation Methodology: CARB Miscellaneous Process Methodology - Paved Road Dust, Table 6, March 2021.
Exerpt from this document describing how to calculate PM2.5 emissions based off of PM10 emissions:
2021_paved_roads_7_9.pdf (ca.gov)

Table 6. CARB Paved Road Dust Particulate Matter (PM) Weight Fractions Speciation Profile #471

Particulate Matter	Size	Fraction of Total PM
PM2.5	≤ $PM_{2.5}$	0.0686
PM10	≤ PM_{10}	0.4572
PM	> PM_{10}	0.5428
Total PM	All PM	1.0000

Source:
calculation
Table 13.2.1-1, USEPA AP-42 Section 13.2.1, revised January 2011
Calculated above (silt loading factor)
Table 7 of CARB, 2018.
Table 5 of CARB MPM 7.9, 2021
annual days (365)

PM2.5 emission factor = 0.00457 * 15%
$PM_{2.5}$ Emission Factor

2027		2028		2029	
0.00068534	lbs/mi	0.000685	lbs/mi	0.000686	lbs/mi

Off-Site Fugitive Dust Emissions of PM2.5

2027		2028		2029	
lb/year	$PM_{2.5}$	lb/year	$PM_{2.5}$	lb/year	$PM_{2.5}$
	978.25		978.25		978.92
PPD	**$PM_{2.5}$**	**PPD**	**$PM_{2.5}$**	**PPD**	**$PM_{2.5}$**
	5.34		**5.34**		**5.34**
TPY	$PM_{2.5}$	TPY	$PM_{2.5}$	TPY	$PM_{2.5}$
	0.489127		0.4891271		0.4894578

Background Information

Construction Health Risk Assessment

Health Risk Assessment Summary

Unmitigated		
	Incremental Lifetime Cancer Risk (# in one million)	**Chronic Hazard Index (unitless)**
MEIR- INFANT	**22.67**	0.02
FRAQMD Threshold	10	1
Exceeds Threholds?	**Yes**	No
Using T4 Offroad Equipment		
MEIR- INFANT	5.07	0.01
FRAQMD Threshold	10	1
Exceeds Threholds?	No	No

Sunset Weir

Incremental Lifetime Cancer Risk & Hazard Index Calculations - Offsite Residential

Unmitigated

						Exposure Duration (Days)				DPM	
					Start Date	4/16/2027	7/16/2027	4/17/2029		Emisions (tons)	Emission Rate (g/s)
					Stop Date	7/15/2027	4/16/2029	12/27/2029			
AERMOD Source	Year	Start Date	End Date	Workdays	Calendar Days	3rd Trimester	0<2	2<9	Exposure Duration	Unmitigated	Unmitigated
PAREA1	2027	4/16/2027	12/27/2027	182	255	90	164	0	255	0.079	0.009
PAREA1	2028	4/16/2028	12/27/2028	183	255	0	255	0	255	0.079	0.009
PAREA1	2029	4/16/2029	12/27/2029	184	255	0	0	254	255	0.079	0.009
SLINE1	2027	4/16/2027	12/27/2027	182	255	90	164	0	255	0.003	0.000
SLINE1	2028	4/16/2028	12/27/2028	183	255	0	255	0	255	0.003	0.000
SLINE1	2029	4/16/2029	12/27/2029	184	255	0	0	254	255	0.003	0.000

Cancer Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<9
Daily Breathing Rate	DBR	L/kg-day	361	1090	861
Fraction Of Time At Home	FAH	unitless	0.85	0.85	0.72
Exposure Frequency	EF	days/year	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3
Inhalation Absorption Factor	A	unitless	1	1	1
Conversion Factor	CF_1	m^3/L	0.001	0.001	0.001
Conversion Factor	CF_2	$\mu g/m^3$	0.001	0.001	0.001
Cancer Potency Factor (diesel exhaust)	CPF	$mg/kg\text{-}day^{-1}$	1.1	1.1	1.1
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00

Risk at nearby schools assumed to be <1

SOURCE: Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments* . February 2015

Daily breathing rate for residential receptor is based on the OEHHA 95th percentile moderate intensity breathing rates (OEHHA Table 5.7).

Fraction of time at home is set to values per OEHHA Table 8.4 for residential since the nearest school has an unmitigated cancer risk of <1 per million.

Inhalation cancer potency factor from OEHHA Table 7.1

Hazard Index

Chronic Inhalation	REL	$\mu g/m^3$	5

Intake Factor for Inhalation, IF (m^3/kg-day) = DBR*FAH*EF*ED*ASF*A*CF/AT

AERMOD Source	3rd Trimester	0<2	2<9
PAREA1	0.010	0.057	0.000
PAREA1	0.000	0.089	0.000
PAREA1	0.000	0.000	0.018
SLINE1	0.010	0.057	0.000
SLINE1	0.000	0.089	0.000
SLINE1	0.000	0.000	0.018

Risk Calculation Part 1, R1 = IF*CPF*CF

3rd Trimester	0<2	2<9
1.14E-05	6.27E-05	0.00E+00
0.00E+00	9.75E-05	0.00E+00
0.00E+00	0.00E+00	1.95E-05
1.14E-05	6.27E-05	0.00E+00
0.00E+00	9.75E-05	0.00E+00
0.00E+00	0.00E+00	1.95E-05

	Cancer Risk	UTM X	UTM Y
MEIR			
MEIR- INFANT	22.67	617532.2	4345408.75

HI	UTM X	UTM Y
0.02	617532.2	4345408.75

Diesel Particulate Matter concentration, C_{DPM} ($\mu g/m^3$)

X (UTM)	Y (UTM)	Construction					
		PAREA1	PAREA1	PAREA1	SLINE1	SLINE1	SLINE1
		2027	2028	2029	2027	2028	2029
Index Lookup HIDE		1	2	3	4	5	6
617381.61	4345457.81	0.05	0.05	0.05	0.00	0.00	0.00
617427.33	4345398.71	0.06	0.06	0.06	0.00	0.00	0.00
617383.84	4345400.94	0.05	0.05	0.05	0.00	0.00	0.00
617532.16	4345408.75	0.12	0.11	0.11	0.00	0.00	0.00
617328.41	4345034.95	0.03	0.03	0.03	0.00	0.00	0.00
617321.15	4344841.08	0.02	0.02	0.02	0.00	0.00	0.00
617324.16	4344983.79	0.03	0.03	0.03	0.00	0.00	0.00

Risk Calculation Part 2

Cancer Risk = $\sum R1*C_{DPM}$				HI
3rd Trimester	0<2	2<9	Total	C_{DPM}/REL
				unitless
5.64E-07	7.89E-06	9.57E-07	9.4	9.89E-03
7.74E-07	1.08E-05	1.31E-06	12.9	1.36E-02
5.94E-07	8.32E-06	1.01E-06	9.9	1.04E-02
1.36E-06	1.90E-05	2.31E-06	22.7	2.38E-02
3.92E-07	5.48E-06	6.64E-07	6.5	6.88E-03
2.97E-07	4.15E-06	5.03E-07	4.9	5.21E-03
3.57E-07	4.99E-06	6.05E-07	6.0	6.26E-03

Sunset Weir

Incremental Lifetime Cancer Risk & Hazard Index Calculations - Offsite Residential

Mitigated with Tier 4F Construction Equipment

						Exposure Duration (Days)				DPM	
					Start Date	4/16/2027	7/16/2027	4/17/2029		Emisions (tons)	Emission Rate (g/s)
					Stop Date	7/15/2027	4/16/2029	12/27/2029			
AERMOD Source	Year	Start Date	End Date	Workdays	Calendar Days	3rd Trimester	0<2	2<9	Exposure Duration	Mitigated - Tier 4F	Mitigated - Tier 4F
PAREA1	2027	4/16/2027	12/27/2027	182	255	90	164	0	255	0.016	0.002
PAREA1	2028	4/16/2028	12/27/2028	183	255	0	255	0	255	0.016	0.002
PAREA1	2029	4/16/2029	12/27/2029	184	255	0	0	254	255	0.016	0.002
SLINE1	2027	4/16/2027	12/27/2027	182	255	90	164	0	255	0.003	0.000
SLINE1	2028	4/16/2028	12/27/2028	183	255	0	255	0	255	0.003	0.000
SLINE1	2029	4/16/2029	12/27/2029	184	255	0	0	254	255	0.003	0.000

Cancer Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<9	
Daily Breathing Rate	DBR	L/kg-day	361	1090	861	
Fraction Of Time At Home	FAH	unitless	0.85	0.85	0.72	Risk at nearby schools assumed to be <1
Exposure Frequency	EF	days/year	0.96	0.96	0.96	
Age Sensitivity Factor	ASF	unitless	10	10	3	
Inhalation Absorption Factor	A	unitless	1	1	1	
Conversion Factor	CF_1	m^3/L	0.001	0.001	0.001	
Conversion Factor	CF_2	$\mu g/m^3$	0.001	0.001	0.001	
Cancer Potency Factor (diesel exhaust)	CPF	$mg/kg\text{-}day^{-1}$	1.1	1.1	1.1	
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	

SOURCE: Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments* . February 2015

Daily breathing rate for residential receptor is based on the OEHHA 95th percentile moderate intensity breathing rates (OEHHA Table 5.7).

Fraction of time at home is set to values per OEHHA Table 8.4 for residential since the nearest school has an unmitigated cancer risk of <1 per million.

Inhalation cancer potency factor from OEHHA Table 7.1

Hazard Index

Chronic Inhalation	REL	$\mu g/m^3$	5

Intake Factor for Inhalation, IF (m^3/kg-day) = DBR*FAH*EF*ED*ASF*A*CF/AT

AERMOD Source	3rd Trimester	0<2	2<9
PAREA1	0.010	0.057	0.000
PAREA1	0.000	0.089	0.000
PAREA1	0.000	0.000	0.018
SLINE1	0.010	0.057	0.000
SLINE1	0.000	0.089	0.000
SLINE1	0.000	0.000	0.018

Risk Calculation Part 1, R1 = IF*CPF*CF

3rd Trimester	0<2	2<9
1.14E-05	6.27E-05	0.00E+00
0.00E+00	9.75E-05	0.00E+00
0.00E+00	0.00E+00	1.95E-05
1.14E-05	6.27E-05	0.00E+00
0.00E+00	9.75E-05	0.00E+00
0.00E+00	0.00E+00	1.95E-05

	Cancer Risk	UTM X	UTM Y
MEIR			
MEIR- INFANT	5.07	617532.2	4345408.75

HI	UTM X	UTM Y
0.01	617532.2	4345408.75

Diesel Particulate Matter concentration, C_{DPM} ($\mu g/m^3$)

X (UTM)	Y (UTM)	Construction					
		PAREA1	PAREA1	PAREA1	SLINE1	SLINE1	SLINE1
		2027	2028	2029	2027	2028	2029
Index Lookup HIDE		1	2	3	4	5	6
617381.61	4345457.81	0.01	0.01	0.01	0.00	0.00	0.00
617427.33	4345398.71	0.01	0.01	0.01	0.00	0.00	0.00
617383.84	4345400.94	0.01	0.01	0.01	0.00	0.00	0.00
617532.16	4345408.75	0.02	0.02	0.02	0.00	0.00	0.00
617328.41	4345034.95	0.01	0.01	0.01	0.00	0.00	0.00
617321.15	4344841.08	0.00	0.00	0.00	0.00	0.00	0.00
617324.16	4344983.79	0.01	0.01	0.01	0.00	0.00	0.00

Risk Calculation Part 2

Cancer Risk = $\sum R1*C_{DPM}$				HI
3rd Trimester	0<2	2<9	Total	C_{DPM}/REL
				unitless
1.33E-07	1.86E-06	2.24E-07	2.2	2.34E-03
1.84E-07	2.57E-06	3.09E-07	3.1	3.23E-03
1.43E-07	1.99E-06	2.40E-07	2.4	2.51E-03
3.05E-07	4.26E-06	5.14E-07	5.1	5.35E-03
1.03E-07	1.42E-06	1.71E-07	1.7	1.80E-03
7.81E-08	1.08E-06	1.30E-07	1.3	1.37E-03
9.41E-08	1.31E-06	1.57E-07	1.6	1.65E-03

Sunset Weir

Summary of AERMOD Outputs for Offsite Receptors

			Construction	
x	y	x_y	PAREA1	SLINE1
617381.61	4345457.81	617381.61_4345457.81	5.19211	6.38039
617427.33	4345398.71	617427.33_4345398.71	7.11293	9.18757
617383.84	4345400.94	617383.84_4345400.94	5.44473	7.4584
617532.16	4345408.75	617532.16_4345408.75	12.68976	10.58909
617328.41	4345034.95	617328.41_4345034.95	3.49111	7.45421
617321.15	4344841.08	617321.15_4344841.08	2.63771	5.77742
617324.16	4344983.79	617324.16_4344983.79	3.17079	6.98671

* AERMOD (24142): C:\Sunset Weir\Sunset Weir.isc 11/19/25
* AERMET (19191): 08:40:06
* MODELING OPTIONS USED: RegDFAULT CONC ELEV FLGPOL RURAL ADJ_U*
* PLOT FILE OF PERIOD VALUES AVERAGED ACROSS 0 YEARS FOR SOURCE GROUP: CNST
* FOR A TOTAL OF 7 RECEPTORS.
* FORMAT: (3(1X,F13.5),3(1X,F8.2),2X,A6,2X,A8,2X,I8.8,2X,A8)

X	Y	AVERAGE (	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM HRS	NET ID
617381.6	4345458	5.19211	24.14	24.14	1.5	PERIOD	CNST	43848	
617427.3	4345399	7.11293	23.93	23.93	1.5	PERIOD	CNST	43848	
617383.8	4345401	5.44473	24.07	24.07	1.5	PERIOD	CNST	43848	
617532.2	4345409	12.68976	23.7	23.7	1.5	PERIOD	CNST	43848	
617328.4	4345035	3.49111	23.89	23.89	1.5	PERIOD	CNST	43848	
617321.2	4344841	2.63771	23.3	23.3	1.5	PERIOD	CNST	43848	
617324.2	4344984	3.17079	23.56	23.56	1.5	PERIOD	CNST	43848	

* CONCUN m^3
* DEPUNIT 2

* AERMOD (24142): C:\Sunset Weir\Sunset Weir.isc 11/19/25
* AERMET (19191): 08:40:06
* MODELING OPTIONS USED: RegDFAULT CONC ELEV FLGPOL RURAL ADJ_U*
* PLOT FILE OF PERIOD VALUES AVERAGED ACROSS 0 YEARS FOR SOURCE GROUP: HAUL
* FOR A TOTAL OF 7 RECEPTORS.
* FORMAT: (3(1X,F13.5),3(1X,F8.2),2X,A6,2X,A8,2X,I8.8,2X,A8)

X	Y	AVERAGE (	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM HRS	NET ID
617381.6	4345458	6.38039	24.14	24.14	1.5	PERIOD	HAUL	43848	
617427.3	4345399	9.18757	23.93	23.93	1.5	PERIOD	HAUL	43848	
617383.8	4345401	7.4584	24.07	24.07	1.5	PERIOD	HAUL	43848	
617532.2	4345409	10.58909	23.7	23.7	1.5	PERIOD	HAUL	43848	
617328.4	4345035	7.45421	23.89	23.89	1.5	PERIOD	HAUL	43848	
617321.2	4344841	5.77742	23.3	23.3	1.5	PERIOD	HAUL	43848	
617324.2	4344984	6.98671	23.56	23.56	1.5	PERIOD	HAUL	43848	

* CONCUN m^3
* DEPUNIT 2

Appendix D

GGERP Consistency Determination Checklist

Greenhouse Gas Emissions Reduction Plan Consistency Determination

For Projects Using Contractors or Other Outside Labor

This form is to be used by DWR Project Managers to document a CEQA project's consistency with the DWR Greenhouse Gas Emissions Reduction Plan (GGERP). This form is to be used only when DWR is the Lead Agency and when contractors or outside labor and equipment are used to implement the project.

Additional Guidance on filling out this form can be found at:
https://cawater.sharepoint.com/teams/prog/icc/SitePages/ClimateActionPlan.aspx

The DWR Greenhouse Gas Emissions Reduction Plan can be accessed at:
https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-I-GGERP-Update-2020.pdf

Project Name:	Sunset Weir and Pumps Fish Passage Project
Environmental Document Type:	Supplemental Environmental Impact Report
Project Manager's Name:	Rachel Ballanti
Project Manager's E-mail:	rachel.ballanti@water.ca.gov
Division:	DWR Division of Multi-benefit Initiatives
Office, Branch, or Field Division:	

Short Project Description:
The Sunset Weir and Pumps Fish Passage Project on the Feather River would consist of the removal of Sunset Weir and the restoration of natural, volitional passage conditions for protected species, replacement and upgrade of the Sunset Pump Station to operate at a lower surface water elevation and rehabilitation of existing pump discharge pipelines; installation of new fish screens that meet current State and federal standards for protecting fish; and left bank stabilization downstream of the weir.

Project Greenhouse Gas (GHG) Emissions Summary:		
Total Construction Emissions	3,947	$mtCO_2e$
Maximum Annual Construction Emissions	1,315	$mtCO_2e$ (For construction lasting 12 months or less the total and maximum annual construction emissions will be the same)

☒ All other emissions from the project not accounted for above will occur as ongoing operational, maintenance, or business activity emissions and therefore have already been accounted for and analyzed in the GGERP.

Extraordinary Construction Project Determination:

Do total project construction emissions exceed 25,000 $mtCO_2e$ for the entire construction phase or exceed 12,500 $mtCO_2e$ in any single year of construction?

☒ No – Additional analysis not required ☐ Yes – Project specific emissions mitigation measures have been included in the environmental analysis document for the project

Project GHG Reduction Plan Checklist:

☑ All Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project. (Project Level GHG Emissions Reduction Measures)

Or

☐ All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and Measures not incorporated have been listed and determined not to apply to the proposed project (include as an attachment)

☑ Project does not conflict with any of the Specific Action GHG Emissions Reduction Measures (Specific Action GHG Emissions Reduction Measures)

Would implementation of the project result in additional energy demands on the SWP system of 15 GWh/yr or greater?

☐ Yes ☑ No

If you answered Yes, attach a letter documenting that the project has consulted with the DWR SWP Power and Risk Office regarding the additional power requirements of the project.

Is there substantial evidence that the effects of the proposed project may be cumulatively considerable notwithstanding the proposed project's compliance with the requirements of the DWR GHG Reduction Plan?

☐ Yes ☑ No

If you answered Yes, the project is not eligible for streamlined analysis of GHG emissions using the DWR GHG Emissions Reduction Plan. (See CEQA Guidelines, section 15183.5, subdivision (b)(2).)

Project Manager Signature: Rachel Ballanti Date: 12/11/2025

After the Project Manager has reviewed and signed above please use DocuSign to forward this form to the DWR Climate Change Program at ceqaclimatechange@water.ca.gov for final approval.

For DWR Climate Change Program Use Only:
Based on the information provided above and information provided in associated environmental documentation completed pursuant to the above referenced project, the DWR Climate Change Program has determined that:

☑ The entire proposed project is consistent with the DWR GGERP and the GHGs emitted by the project are covered by the plan's analysis.

☐ The operational and maintenance phase of the project is consistent with the DWR GGERP and the GHGs emitted by the project are covered by the plan's analysis. Emissions from the construction phase of the project are not covered by the DWR GGERP and will be mitigated as part of the project.

Climate Change Program Approval Signature: Tyler Anthony Date: 12/11/2025

Attachments:

☑ GHG Emissions Inventory ☐ List and Explanation of excluded Project level GHG Emissions Reduction Measures ☐ SWP Power and Risk Office Consultation Letter

Links:
https://cawater.sharepoint.com/teams/prog/icc/SitePages/HomePage.aspx
https://water.ca.gov/Programs/All-Programs/Climate-Change-Program

Appendix E

Biological Resources Technical Report

SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT

Biological Resources Technical Report

Prepared for
California Department of Water Resources

November 2025

ESA

SUNSET WEIR AND PUMPS FISH PASSAGE PROJECT

Biological Resources Technical Report

Prepared for
California Department of Water Resources

November 2025

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D201900930.08

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Acronyms and Other Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CM	conservation measure
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DWR	California Department of Water Resources
ESA	Environmental Science Associates
FESA	federal Endangered Species Act
FR	Federal Register
GIS	geographic information system
NAD 83	North American Datum of 1983
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWPT	northwestern pond turtle
Proposed Project	Sunset Weir and Pumps Fish Passage Project
Report	biological resources technical report
RM	river mile
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
VELB	valley elderberry longhorn beetle

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EXECUTIVE SUMMARY

Environmental Science Associates (ESA) conducted several biological resources surveys within the approximately 19.14-acre study area (study area) for the Sunset Weir and Pumps Fish Passage Project (Proposed Project), located in Sutter County, California. For this Proposed Project, the California Department of Water Resources (DWR) plans to remove Sunset Weir and rehabilitate the Feather River channel for improved fish passage.

The purpose of this report is to assess the suitability of the study area to support special-status species and sensitive habitat types, to provide recommendations for regulatory permitting or further analysis that may be required, and to recommend conservation measures to avoid or minimize potential impacts to special-status species and sensitive habitat types.

The following habitat types occur within the study area: annual grassland, riparian forest, riverine, agriculture/cropland, developed/urban, and disturbed. Of these, annual grassland, riparian forest, and riverine are considered natural communities. The riverine habitat within the Feather River is a jurisdictional water of the United States. There are no potentially jurisdictional wetlands in the study area. Based on the project description, the Proposed Project would be required to obtain permits and permissions from regulatory agencies for impacts to the perennial riverine (Clean Water Act Section 404 permit, Clean Water Act Section 401 Water Quality Certification, Fish and Game Code Section 1600 Streambed Alteration Agreement) and riparian forest (Fish and Game Code Section 1600 Streambed Alteration Agreement).

The study area provides marginal habitat for non-listed special-status plant species including heartscale (*Atriplex cordulata* var. *cordulata*), spicate calycadenia (*Calycadenia spicata*), pappose tarplant (*Centromadia parryi* ssp. *parryi*), recurved larkspur (*Delphinium hesperium* var. *recurvatum*), Colusa layia (*Layia septentrionalis*), veiny monardella (*Monardella douglasii* ssp. *venosa*), and Sanford's arrowhead (*Sagittaria sanfordii*).

The study area provides suitable nesting habitat for listed and non-listed migratory birds and other birds of prey, including Swainson's hawk (*Buteo swainsoni*) and western burrowing owl (*Athene cunicularia*). Multiple special-status terrestrial wildlife species including valley elderberry longhorn beetle (*Desmocerus dimorphus californica*), northwestern pond turtle (*Actinemys marmoata*), and special-status bat species may have the potential to occur within the study area. Additionally, multiple special-status anadromous fish species including Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley fall-/late fall-run Chinook salmon (*Oncorhynchus tshawytscha*), and green sturgeon (*Acipenser medirostris*) are known to occur within the study area.

In addition, this report discusses conservation measures, including conducting preconstruction surveys, for the above-listed species. These measures will be used to inform the California Environmental Quality Act Initial Study and biological assessment in determining potential environmental impacts/effects, respectively, to sensitive biological resources as a result of the Proposed Project.

CHAPTER 1
Introduction

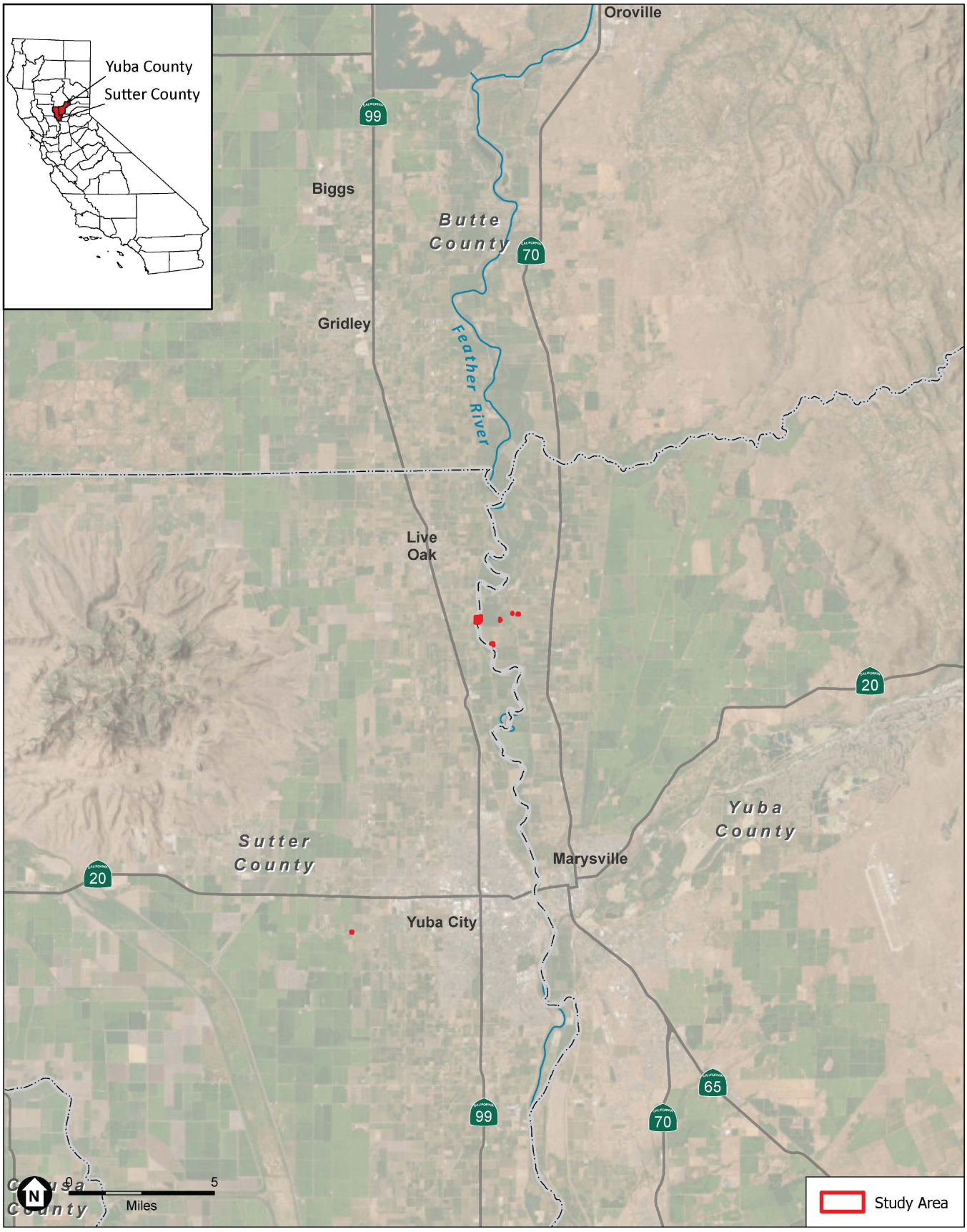
1.1 Background and Purpose

This biological resources technical report (report) was prepared for the California Department of Water Resources' (DWR's) Sunset Weir and Pumps Fish Passage Project (Proposed Project) located on the Feather River near river mile (RM) 38.3, approximately 2 miles southeast of Live Oak in Sutter County, California (**Figure 1** and **Figure 2**). The purpose of this report is to assess the suitability of the Proposed Project's approximately 19.14-acre study area (study area) to support special-status species and sensitive habitat types, to provide recommendations for regulatory permitting or further analysis that may be required, and to recommend conservation measures to avoid or minimize potential impacts to special-status species and sensitive habitat types.

1.2 Project Description

The Proposed Project would involve the removal of Sunset Weir and the restoration of unimpeded flow and fish passage conditions for the Feather River channel; replacement of the Sunset Pump Station to operate at a lower surface water elevation; rehabilitation of existing pump discharge pipelines; installation and operation of new fish screens at the Sunset Pump Station; and stabilization of the bank downstream of the weir.

Removal of Sunset Weir would focus on restoring unimpeded passage to migratory fish species to access the 28.5 miles of the Feather River from Sunset Weir (RM 38.5) upstream to the existing Feather River Fish Barrier Dam (RM 67). This includes access to documented spawning habitat for southern Distinct Population Segment green sturgeon (*Acipenser medirostris*) from Thermalito Afterbay Outlet pool upstream to the Fish Barrier Dam that historically was only accessible in years with high basin discharge (Seesholtz 2020). Weir removal would also allow for the Feather River within the weir impoundment area to "rehabilitate" and take on a more natural riverine morphology, comprising variable and distinct habitat types (e.g., deep pools and shallow riffles), as compared to the current backwatered and more slough-like conditions that persist for miles upstream of the existing weir. Materials comprising the weir would be removed, and the weir footprint would be restored to match the existing natural channel bed.



SOURCE: Esri, 2024; ESA, 2024

Sunset Weir and Pumps Geotechnical Investigations

Figure 1
Regional Location

ESA



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 2
Project Vicinity

ESA

1.3 Property Locations

Sunset Weir, the pump station and staging areas are located along the Feather River and within nearby agricultural lands on both the Sutter County and Yuba County sides of the river. One off-site staging area is also located in Yuba City at 4501 Franklin Road. The study area is within the U.S. Geological Survey Gridley 7.5-minute quadrangle map.

The western boundary of the study area is defined by portions of the west levee of the Feather River, which is part of the Sacramento River Flood Control Project and operated and maintained by Levee District 9, the western bank of Sutter Extension Water District's Main Canal, and the right (west) bank of the Feather River. The eastern boundary of the study area is defined by the left (east) bank of the Feather River and an area extending roughly 50 feet landward. The proposed temporary spoils storage area and staging area for the Proposed Project is located adjacent to the left (east) bank of the Feather River, approximately 1,100 feet southeast of the Sunset Pump Station.

1.4 Regulatory Context

Biological resources in the study area may fall under the jurisdiction of various regulatory agencies and be subject to their regulations. This section summarizes the federal and State regulations that protect special-status species; waters of the United States; natural communities of special concern; and other sensitive biological resources. In general, the greatest legal protections are provided for plant and wildlife species that are formally listed under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). The regulations and agencies listed in **Table 1** are commonly associated with projects that have the potential to affect biological resources.

These regulations are presented and discussed in full in **Appendix A**, *Regulatory Context.*

TABLE 1
REGULATORY AGENCIES

Agency	Regulation
Federal	
U.S. Fish and Wildlife Service	• Federal Endangered Species Act • Federal Migratory Bird Treaty Act • Bald and Golden Eagle Protection Act
National Marine Fisheries Service	Federal Endangered Species Act
U.S. Army Corps of Engineers	Clean Water Act, Section 404
State	
California Department of Fish and Wildlife	• California Endangered Species Act • Fish and Game Code 3503 • Native Plant Protection Act • Fish and Game Code Section 1600 Lake or Streambed Alteration Program
Central Valley Regional Water Quality Control Board	Clean Water Act, Section 401 Water Quality Certification
State Water Resources Control Board	Porter Cologne Water Quality Act

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CHAPTER 2
Methods

2.1 Survey Methodology

2.1.1 Survey Dates and Surveying Personnel

Environmental Science Associates (ESA) Senior Biologists Joseph Huang and Daniel Huang and ESA Biologists Anna Schwyter, Melissa Zepeda, Alissa Lun, Morgan Henry, Aaron Lopez, and Matthew Falcon conducted several general biological surveys within the study area on July 26, 2023, and June 19, June 28, October 7, and December 19, 2024. Most of the study area was accessible by foot, excluding the densely vegetated areas within the riparian corridor, which precluded access. The results of the aquatic resources delineation are summarized in this report and discussed in detail under a separate document (Environmental Science Associates 2024).

2.1.2 Habitat and Vegetation Surveys

The biological surveys consisted of conducting a botanical inventory, evaluating vegetative communities, mapping wetlands and waterways, and documenting habitat for special-status species with the potential to occur within the study area. Vegetation communities and aquatic features were characterized and mapped in the field using aerial photography. The boundaries of vegetation communities and wetlands were subsequently digitized using geographic information system (GIS) software in the State Plane coordinate system (North American Datum of 1983 [NAD 83]) with units as survey feet.

2.2 Review of Background Information

Prior to performing the biological surveys, ESA reviewed publicly available data and subscription-based biological resource data. Data sources that assisted in this analysis included:

- Topographic maps (Gridley and surrounding eight quadrangles).
- Online soil maps from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS).
- California Wildlife Habitat Relationships database.
- The Vegetation Classification and Mapping Program.
- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the Gridley and eight surrounding quadrangles (California Department of Fish and Wildlife 2024).
- The California Native Plant Society (CNPS) online database of plant species documented on the Gridley and eight surrounding quadrangles (California Native Plant Society 2024).

- A U.S. Fish and Wildlife Service (USFWS) list of species that may occur in the vicinity of the study area (U.S. Fish and Wildlife Service 2025).

The USFWS, CDFW, and CNPS lists are provided in **Appendix B**. The CNDDB and CNPS lists include special-status species documented on the following nine quadrangles:

West of Biggs	Biggs	Palermo
Pennington	Gridley	Honcut
Sutter Buttes	Sutter	Yuba City

CHAPTER 3
Environmental Setting

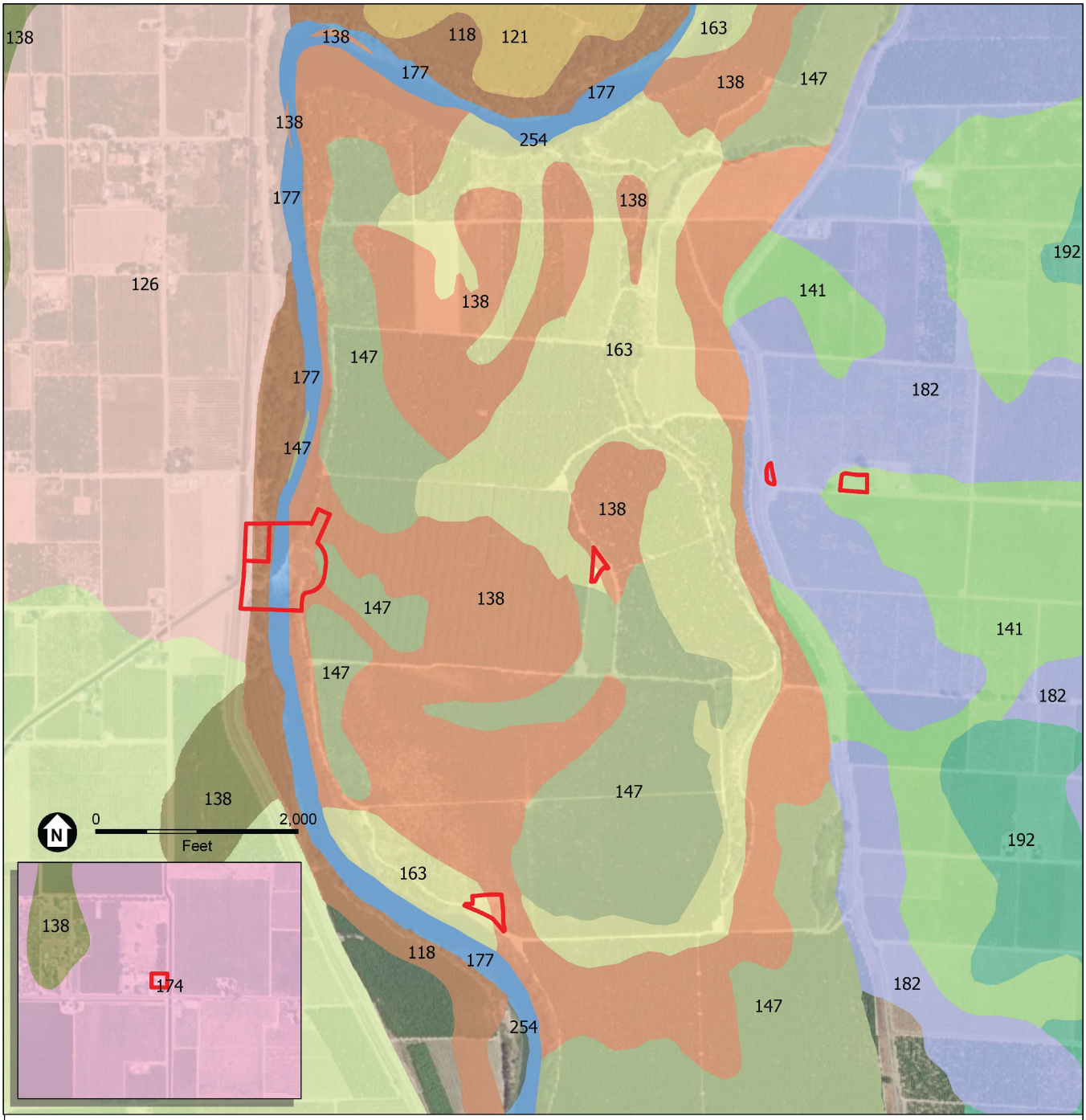
This chapter provides the environmental baseline for soil types, habitat types, waters of the United States, wildlife movement corridors, and special-status species potentially occurring within the study area.

3.1 Soil Types

The NRCS Web Soil Survey was consulted to determine the soil units occurring within the study area (Natural Resources Conservation Service 2023a). There are seven soil map units occurring within the study area (**Figure 3**). Four of these units are listed by the NRCS on the national hydric soils list for Sutter and Yuba counties, California (Natural Resources Conservation Service 2023b). Brief descriptions of the soil map units are provided in **Table 2**.

TABLE 2
STUDY AREA SOILS

Soil Series	Description	County	Hydric Soil List? (Y/N)
Columbia fine sandy loam, channeled, 0–2% slopes	Somewhat poorly drained, non-saline soils that form on floodplains	Sutter County	Y
Columbia fine sandy loam, frequently flooded, 0–2% slopes	See Columbia description above	Sutter County	Y
Conejo-Tisdale complex, 0% slopes	Conejo loam: moderately well drained, non-saline soils formed on stream terraces	Sutter County	N
	Tisdale clay loam: moderately well drained, non-saline soils formed on stream terraces		N
Water	Water	Sutter County	N/A
Columbia fine sandy loam, occasionally flooded, 0–1% slopes	See Columbia description above	Yuba County	Y
Feather silt loam, occasionally flooded, 0–2% slopes	Well drained non-saline soils formed on floodplain steps	Yuba County	N
Holillipah loamy sand, frequently flooded, 0–1% slopes	Somewhat excessively drained soils formed on floodplains	Yuba County	Y
Kilaga clay loam, 0–1% slopes	Well drained soils formed in alluvium from mixed rock sources within nearly level to gently rolling terraces	Yuba County	N
Water	Water	Yuba County	N/A
NOTES: Y = yes; N = no; N/A = not applicable			



SOURCE: Esri, 2024; NRCS, 2024; ESA, 2024

Sunset Weir and Pumps Fish Passage Project

Figure 3
Soils

ESA

3.2 Vegetation Communities and Habitat Types

Vegetation communities are assemblages of plant species that occur together in the same area and are defined by species composition and relative abundance. These communities can be generally correlated to wildlife habitat types. Wildlife habitats are generally described in terms of dominant plant species and vegetation communities along with landform, disturbance regime, and other unique environmental characteristics. The vegetation community/wildlife habitat classification presented in this section is based on field observations.

The following habitat types occur within the study area: annual grassland, riparian forest, riverine, agriculture/cropland, disturbed, and developed/urban. **Table 3** provides a summary of the habitat types by acreages. Habitat types within the study area are presented in **Figure 4**.[1] Commonly occurring wildlife are identified for each of the habitat types. Complete lists of plant and wildlife species identified during surveys are provided in **Appendix C** and **Appendix D**, respectively. Plants observed within the study area that are considered invasive by the California Invasive Plant Council are identified in Appendix C. Representative photographs of habitat types are provided in **Appendix E**.

3.2.1 Annual Grassland

Annual grassland occurs primarily along the levee and levee roads, but also occasionally near the riverbank slopes and in the understory floor of the riparian forest areas within the study area. Dominant vegetation includes foxtail barley (*Hordeum murinum*), slim oat (*Avena barbata*), prickly lettuce (*Lactuca serriola*), ripgut brome (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*).

Commonly occurring wildlife typically associated with annual grassland habitat includes mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), California ground squirrel (*Otospermophilus beecheyi*), and black-tailed jackrabbit (*Lepus californicus*).

3.2.2 Riparian Forest

Riparian forest occurs along both banks of the Feather River. Common overstory vegetation includes valley oak (*Quercus lobata*), narrow-leaved willow (*Salix exigua*), and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Common understory vegetation includes box elder (*Acer negundo*), Himalayan blackberry (*Rubus armeniacus*), western poison oak (*Toxicodendron diversilobum*), and wild oat (*Avena fatua*).

Commonly occurring wildlife typically associated with riparian forest habitat includes California vole (*Microtus californicus*), blue-headed grosbeak (*Pheucticus melanocephalus*), lesser goldfinch (*Spinus psaltria*), and American goldfinch (*Spinus tristis*).

[1] Habitat Mapping Notes: The legend in Figure 4 includes a habitat type labeled "Riverine and Lacustrine," which was pulled from CDFW's vegetation classification and mapping. However, only riverine habitat is within the study area. One lacustrine feature is located east of the Feather River in the Ramara Farms LLC property, but it is outside of the study area and will not be discussed in this report.

"Fresh Emergent Wetland" and "Eucalyptus" habitat types are labeled in the legend and both fresh emergent wetland and eucalyptus habitats are mapped in Figure 4. However, no potentially jurisdictional wetlands or eucalyptus groves are within the study area and will not be discussed in this report.

TABLE 3
HABITAT TYPES BY ACREAGES WITHIN THE ENTIRE STUDY AREA

Project Area	Project Feature	Annual Grassland	Riparian Forest	Riverine	Agriculture/ Cropland	Disturbed	Developed/ Urban	Subtotal[1]
Main Project Area	Sunset Weir, Pump Station, and Left Bank	1.57	1.45	7.22	4.39	0	0.18	14.81
Staging Areas	Yuba City SEWD Yard Stockpile Area	0	0	0	0	0	0.92	0.92
	Staging Area 1	0	0	0	0	1.58	0	1.58
	Staging Area 2	0	0	0	0	0.57	0	0.57
	Staging Area 3	0	0	0	0	0.25	0	0.25
	Staging Area 4	0	0	0	0	1.01	0	1.01
	Study Area Total[1]	1.57	1.45	7.22	4.39	3.41	1.10	**19.14**

NOTES: SEWD = Sutter Extension Water District

1. Adding acreages may not equal the exact subtotals or study area total due to rounding.

SOURCE: Data collected and compiled by Environmental Science Associates, 2025.



SOURCE: Esri, 2025; CDFW, 2024; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Figure 4
Habitats

ESA

3.2.3 Riverine

Riverine habitat exists within the Feather River. The reach of river upstream of the weir is currently backwatered and exhibits slough-like conditions that persist for miles upstream. The Sunset Weir rock barrier is within the Feather River adjacent to the pump station and would be removed as a component of the Proposed Project. Vegetation observed along the margins of the Feather River within riprap included Baltic rush (*Juncus balticus*), toad rush (*Juncus bufonius*), and common rush (*Juncus effusus*).

Commonly occurring terrestrial wildlife typically associated with riverine habitat includes great egret (*Ardea alba*), black phoebe (*Sayornis nigricans*), belted kingfisher (*Megaceryle alcyon*), North American river otter (*Lontra canadensis*), and American beaver (*Castor canadensis*).

3.2.4 Agriculture/Cropland

Agricultural properties, consisting primarily of walnut orchards, are within most of the study area. The Proposed Project would require equipment and vehicles to drive through the agricultural land to access the pumps to proceed with their improvements.

Commonly occurring wildlife typically associated with agricultural lands includes American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), white-crowned sparrow (*Zonotrichia leucophrys*), and deer mice (*Peromyscus* sp.).

3.2.5 Disturbed

Disturbed areas within the study area include graded levees along the Feather River and the dirt access roads within the agricultural land. The area is mostly vegetated but is sparse in pockets where the soil is extremely rocky (from cobbles and large gravels presumably intentionally placed to serve as levee bank protection). Dominant vegetation includes sow thistle (*Sonchus intermedia*), flax-tail horseweed (*Erigeron bonariensis*), Johnsongrass (*Sorghum halepense*), puncture vine (*Tribulus terrestris*), and shortpod mustard (*Hirschfeldia incana*). These disturbed areas will be selected as staging areas for the Proposed Project.

Some commonly occurring wildlife typically associated with disturbed areas includes raccoon (*Procyon lotor*), California towhee (*Melozone crissalis*), and western kingbird (*Tyrannus verticalis*).

3.2.6 Developed/Urban

Developed areas within the study area include the Sunset Pump Station and the residential area near the pump station. The Proposed Project construction activities in the developed areas include replacing the existing Sunset Pump Station. Dominant vegetation observed within developed areas included Bermuda grass (*Cynodon dactylon*).

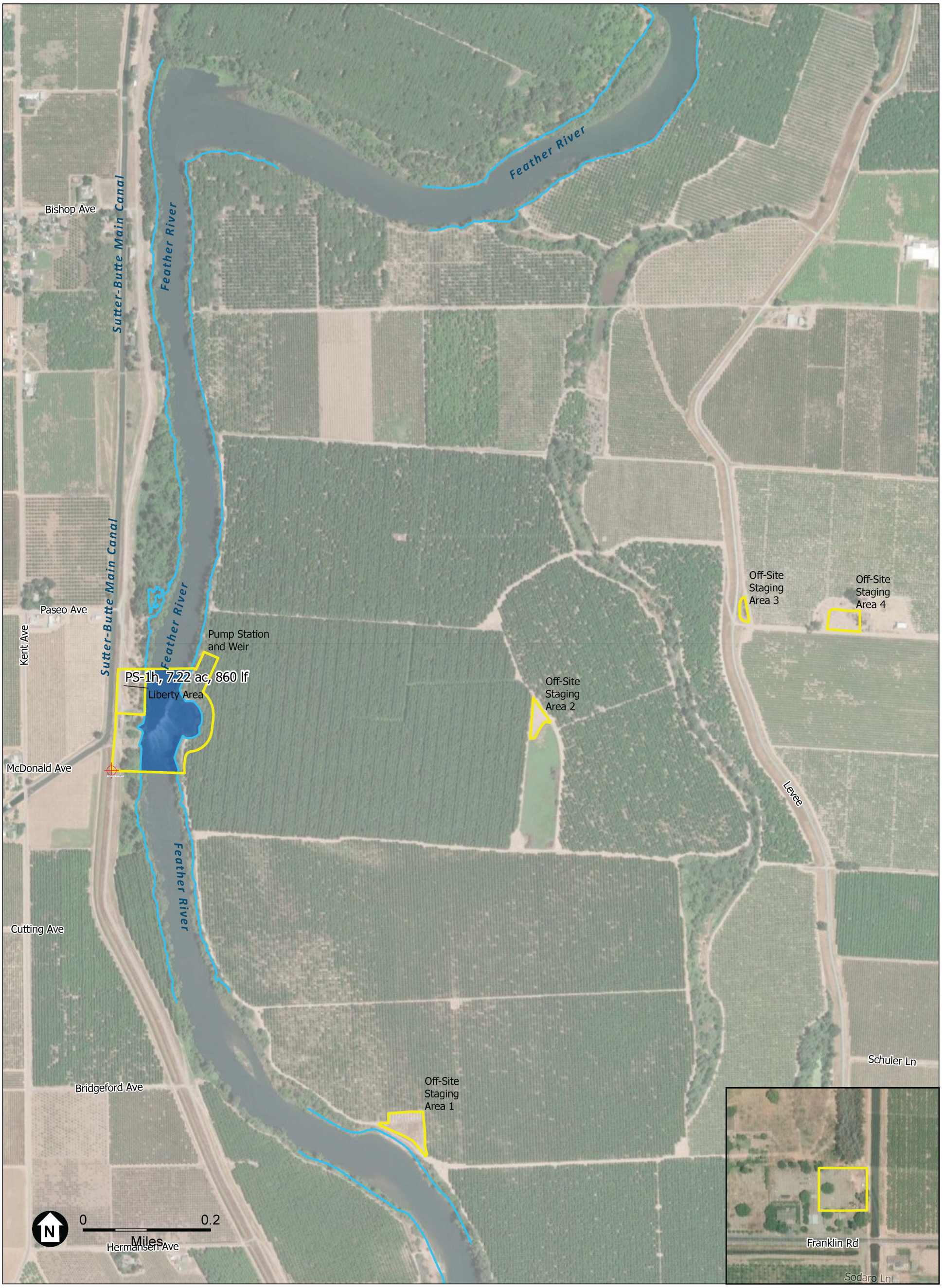
Commonly occurring wildlife observed in developed areas include mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), and California scrub-jay (*Aphelocoma californica*).

3.3 Wetlands and Other Waters of the United States

Wetlands are ecologically complex habitats that support a variety of plant and animal life. In a jurisdictional sense, the federal government defines wetlands in Section 404 of the Clean Water Act as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations [CFR] 328.3[b] and 40 CFR 230.3). Under normal circumstances, the federal definition of wetlands requires three wetland identification parameters be present: wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater emergent wetlands, seasonal wetlands, and wet meadows that have a hydrologic link to other waters of the United States. *Other waters of the United States* refers to those hydric features that are regulated by the Clean Water Act but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high water mark. Examples of other waters of the United States include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes.

The potentially jurisdictional waters of the United States within the study area are limited to the riverine habitat present in the Feather River. There were no potentially jurisdictional wetlands observed within the study area. The areas of riverine habitat within the study area are depicted on aquatic resources maps (**Figure 5** and **5a to 5e**). Based on the aquatic resource delineation report, the study area includes 7.22 acres of riverine habitat (Environmental Science Associates 2024).

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SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Map Reference Point

OHWM

Waters (7.22 acres)

Perennial Stream (7.22 acres)

Figure 5 Overview
Delineated Aquatic Resources

Coordinate System: NAD 1983 State Plane
California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025



SOURCE: Esri, 2025; ESA, 2025

Sunset Weir and Pumps Fish Passage Project

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Survey Area (19.14 acres)
Map Reference Point
OHWM
Waters (7.22 acres)
Perennial Stream (7.22 acres)

Figure 5a
Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (19.14 acres)
OHWM

Coordinate System: NAD 1983 State Plane
California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 5b

Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (19.14 acres)

Coordinate System: NAD 1983 State Plane California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 5c

Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (19.14 acres)

Coordinate System: NAD 1983 State Plane
California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 5d
Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025



SOURCE: Esri, 2025; ESA, 2025

Survey Area (19.14 acres)

Coordinate System: NAD 1983 State Plane
California Zone II FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: N/A

Sunset Weir and Pumps Fish Passage Project

Figure 5e
Delineated Aquatic Resources

ESA

Delineated by: Anna Schwyter
Mapping by: Eryn Pimentel
Created on: 3/24/2025

3.4 Special-Status Species

Special-status species are legally protected under CESA, FESA, or other regulations, or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

1. Species listed or proposed for listing as threatened or endangered under FESA (50 CFR 17.12 [listed plants], 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
2. Species that are candidates for possible future listing as threatened or endangered under FESA (61 FR 40, February 28, 1996).
3. Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5).
4. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.).
5. Animal species of special concern to CDFW.
6. Animals fully protected under the Fish and Game Code (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
7. Species that meet the definitions of rare and endangered under the California Environmental Quality Act (CEQA). CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (CEQA Guidelines, Section 15380).
8. Plants considered by CDFW and CNPS to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B, and 2).

Species recognized under these terms are collectively referred to as *special-status species*.

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. Appendix B contains a comprehensive list of special-status plant and wildlife species that were considered in the analysis. The list includes the common and scientific names for each species, regulatory status (federal, State, local, CRPR), habitat requirements, the identification period, and a discussion of the potential for occurrence in the study area. The potential for occurrence was based on the following categories.

- **Absent**: The species' required habitat is lacking within the study area or potentially occurring plants were not observed during the evident and identifiable season.
- **Low**: The species' required habitat either does not occur or is of very low quality such that no observation has occurred on or near the study area.
- **Moderate**: The species' required habitat occurs within the study area and there are known occurrences nearby, but there are no recorded observations within the study area.
- **High**: The species is very likely to occur within the study area or has been documented in the vicinity and there is suitable habitat within the study area.

- **Present**: The species has been observed within the study area or immediately adjacent to the study area and there is suitable habitat within the study area.

Species that are not expected to occur (with a Low or Absent determination) within the study area (refer to Table B-1 in Appendix B) are excluded from the discussion later in Chapter 3.

3.4.1 Federally and State-Listed Plants

No federally or State-listed plant species have the potential to occur within the study area.

3.4.2 Non-Listed Special-Status Plants

There is marginal habitat for several non-listed special-status plant species, including heartscale (*Atriplex cordulata* var. *cordulata*), spicate calycadenia (*Calycadenia spicata*), pappose tarplant (*Centromadia parryi* ssp. *parryi*), recurved larkspur (*Delphinium hesperium* var. *recurvatum*), Colusa layia (*Layia septentrionalis*), veiny monardella (*Monardella douglasii* ssp. *venosa*), and Sanford's arrowhead (*Sagittaria sanfordii*). None of these plants were observed within the study area during the reconnaissance surveys, and there is a low potential for them to occur within the grassland areas and along the bank of the Feather River because the grassland habitat mostly consists of non-native ruderal plant species.

3.4.3 Federally and State-Listed Wildlife

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus)*

Valley elderberry longhorn beetle (VELB) is federally listed as a threatened species. The VELB is completely dependent on elderberry shrubs for all stages of their lifecycle and is generally associated with riparian habitats. This species is restricted to the Central Valley. The VELB is threatened by loss and fragmentation of riparian habitat and by predation and displacement by the invasive Argentine ant (*Linepithema humile*).

The life history of the VELB is not well known. Adult beetles are active from March to June, which is their assumed breeding season. Adults are known to lay eggs in the crevices of bark of elderberry plants. Larvae hatch days later and bore into the stem of the elderberry shrubs where they feed on the pith. Larvae pupate inside the stem and emerge as adults in the spring. Larvae cut an emergence/exit hole through the wood and bark of the elderberry plant. Adults can fly between elderberry plants. Evidence of use by VELB is more commonly observed for clumps of elderberry bushes rather than isolated bushes.

The VELB framework recommends additional analysis of elderberry shrubs within 165 feet (approximately 50 meters) of the study area (U.S. Fish and Wildlife Service 2017). In total, six elderberry shrubs were observed in or within 165 feet of the study area. These elderberry shrubs may potentially be occupied by VELB.

Northwestern Pond Turtle (*Actinemys marmorata*)

In July 2012, the Center for Biological Diversity petitioned USFWS to list the western pond turtle as threatened or endangered under FESA (16 U.S. Code [USC] 1531–1543). On April 10, 2015, the 90-day finding was published, and it stated the petition presented substantial scientific or commercial information indicating that listing may be warranted for the western pond turtle (80 FR 19262–19263). Since then, the

western pond turtle was split into two separate species, the northwestern pond turtle (NWPT) (*Actinemys marmorata*) and southwestern pond turtle (*Actinemys pallida*). On September 29, 2023, USFWS proposed listing NWPT for federal protection under FESA. The NWPT is also a California species of special concern.

NWPT are semi-aquatic, having both terrestrial and aquatic life history phases. They are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites such as logs or river and creek banks. Suitable aquatic habitat typically has a muddy or rocky bottom and typically has emergent aquatic vegetation for cover. NWPT nest and overwinter in areas of sparse vegetation comprising grassland and forbs with less than 10 percent slopes, less than 492 feet from aquatic habitat (Rosenberg et al. 2009).

Nesting occurs in upland terrestrial habitat, and hatchings, juveniles, and adults use both terrestrial and aquatic habitat. The amount of time spent on land varies by location and aquatic habitat type. Terrestrial environments are required for nesting, overwintering and aestivation (warm season dormancy), basking, and movement/dispersal. Aquatic environments are required for breeding, feeding, overwintering and sheltering, basking, and movement/dispersal. The species inhabit both perennial and intermittent bodies of water throughout their range. Some are flowing/lotic, such as streams, rivers, and irrigation ditches, while others are not flowing/lentic, such as ponds, lakes, and reservoirs.

Females generally lay eggs from May through July. Nests are excavated by females with nest completion taking anywhere from 2 to more than 10 hours. Females excavate nests 3 to 500 meters from water in somewhat compacted, dry soils. However, soils need to be loose enough to allow nest excavation, and disturbance to the upland areas need to be infrequent so that nesting females are not discouraged from visiting those upland areas. Nests are shallow and generally occur between 9 to 12 centimeters below the surface. Clutch size for western pond turtles varies from one to 13 eggs, depending on the size of the female (U.S. Fish and Wildlife Service 2023).

The Feather River is suitable aquatic habitat for NWPT. The study area overlaps with the Feather River at the Sunset Weir rock barrier and the scour pond. NWPT have potential to occur in the study area within the Feather River at these locations. The upland areas are considered only marginal habitat for the species because they consist of riparian forest, compacted fill of dirt roads, and orchards. The compacted fill is not suitable nesting upland habitat for NWPT.

Bald Eagle (*Haliaetus leucocephalus*)

Bald eagle is a State-listed endangered species and a State fully protected species. The species is also protected federally under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Bald eagles occupy areas around large bodies of water or free-flowing rivers with abundant fish, with trees and snags for perches. The species occasionally hunts on displaced rodents in flooded fields and also feeds on carrion. Preferred perches are high in large, stout trees, on snags or broken-topped trees, or on rocks near water. Bald eagles roost communally in winter, typically in dense, sheltered, or remote conifer stands.

Bald eagles nest in large, old-growth, or dominant live trees with open branchwork, especially ponderosa pine (*Pinus ponderosa*). They nest most frequently in stands with less than 40 percent canopy, but usually

with some foliage shading the nest (Zeiner et al. 1990a). Bald eagles often choose the largest tree in a stand on which to build a stick platform nest. Nest tree selection is highly dependent on tree height and size, and the nest is usually located near a permanent water source.

The Feather River provides suitable foraging habitat for bald eagles to hunt for fish. Although there are some tall trees in the riparian forest, none of the trees within the study area looked sufficiently large or tall enough for a bald eagle to nest on them.

Burrowing Owl (*Athene cunicularia*)

Burrowing owl is a candidate species for listing as threatened under CESA after the California Fish and Game commission accepted a petition to list the species on October 10, 2024.

Burrowing owls are a small ground-dwelling owl that occurs in western North America from Canada to Mexico and east to Texas and Louisiana. Although burrowing owls are migratory in certain areas of their range, these owls are predominantly non-migratory in California. Burrowing owls generally inhabit gently sloping areas, characterized by low, sparse vegetation (Poulin et al. 2011). The breeding season for burrowing owls extends from March to August, peaking in April and May (Zeiner et al. 1990a). Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. Burrowing owls are also known to use artificial/alternative burrows including pipes, culverts, and nest boxes.

No ground squirrel activity was observed and no burrows suitable for occupation by burrowing owls were observed during the surveys within the study area. Only burrows smaller than 4 inches in diameter were observed within the orchards. Burrowing owls may occur as transients in or near the study area while foraging in the annual grassland areas.

Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*)

Western yellow-billed cuckoo is a federal-listed threatened and a State-listed endangered species.

Western yellow-billed cuckoos nest along broad, lower flood bottoms of larger river systems in dense riparian vegetation consisting of willow and cottonwood, with a lower story of blackberry, nettles, or wild grape. In California, this species nests in scattered, isolated areas within Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys.

There is suitable willow thicket habitat within the riparian edge of the Feather River. However, there have been no documented observations of western yellow-billed cuckoo in the region since the 1980s.

Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is a State-listed threatened species.

The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Cornell Lab of Ornithology 2025). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner et al. 1990a). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near

riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually close to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in September or October (Zeiner et al. 1990a).

The trees within the riparian forest provide suitable nesting habitat for the species. The annual grassland portions within the study area are narrow and small. They do not constitute suitable foraging habitat for Swainson's hawk.

Central Valley Spring-Run Chinook Salmon (*Oncorhynchus tshawytscha*)

Central Valley spring-run Chinook salmon is federally and State-listed as a threatened species.

Central Valley spring-run Chinook salmon were historically the second-most abundant run of Central Valley Chinook salmon (Yoshiyama et al. 2001). They occupied the headwaters of all major river systems in the Central Valley where there were no natural barriers. Adults returning to spawn ascended the tributaries to the upper Sacramento River, including the Pit, McCloud, and Little Sacramento rivers. They also occupied Cottonwood, Battle, Antelope, Mill, Deer, Stony, Big Chico, and Butte creeks, as well as the Feather, Yuba, American, Mokelumne, Stanislaus, Tuolumne, Merced, San Joaquin, and Kings rivers. Spring-run Chinook salmon migrated into headwater streams where cool, well-oxygenated water is available year-round.

Spawning occurs in gravel beds from late August through October, and emergence takes place in March and April. Spring-run Chinook salmon appear to emigrate at two different life stages: fry and yearlings. Fry move between February and June, while the yearling spring-run Chinook salmon emigrate October to March, peaking in November (Cramer and Demko 1997). Juveniles display considerable variation in stream residence and migratory behavior. Juvenile spring-run Chinook salmon may leave their natal streams as fry soon after emergence or rear for several months to a year before migrating as smolts or yearlings (Yoshiyama et al. 1998).

The study area overlaps with the Feather River, which is a known migration corridor of the species. Spring-run Chinook may feed and spawn along the Feather River.

Central Valley Steelhead (*Oncorhynchus mykiss*)

Central Valley steelhead is federally listed as a threatened species.

Historically, steelhead spawned and reared in most of the accessible upstream reaches of Central Valley rivers and many of their tributaries. Compared with Chinook salmon, steelhead generally migrated farther into tributaries and headwater streams where cool, well-oxygenated water is available year-round.

The upstream migration of adult steelhead historically started in July, peaked in early fall, and continued through March. Central Valley steelhead spawn mainly from January through March, but spawning has been reported from late December through April (McEwan and Jackson 1996). During spawning, the female digs a redd (gravel nest) in which she deposits her eggs, which are then fertilized by the male. Egg incubation time in the gravel is determined by water temperature, varying from approximately 19 days at

an average water temperature of 60 ºF to approximately 80 days at an average temperature of 58 ºF (McEwan and Jackson 1996).

Steelhead fry usually emerge from the gravel 2 to 8 weeks after hatching, between February and May, sometimes extending into June (Barnhart 1986; Reynolds et al. 1993). Newly emerged steelhead fry move to shallow, protected areas along streambanks but move to faster, deeper areas of the river as they grow. Juvenile steelhead feed on a variety of aquatic and terrestrial insects and other small invertebrates. Juvenile steelhead rear throughout the year and may spend 1 to 3 years in freshwater before emigrating to the ocean. Smoltification, the physiological adaptation that juvenile salmonids undergo to tolerate saline waters, occurs in juveniles as they begin their downstream migration. Smolting steelhead generally emigrate from March to June (McEwan 2001).

The study area overlaps with the Feather River, where steelhead are known to occur. They feed in the river and may use suitable gravel areas for spawning.

Green Sturgeon (*Acipenser medirostris*)

Green sturgeon is federally listed as a threatened species and is a California species of special concern.

Habitat requirements of green sturgeon are poorly known. Indirect evidence indicates that green sturgeon spawn mainly in the Sacramento River; spawning has been reported in the mainstem as far north as Red Bluff. Spawning times in the Sacramento River are presumed to be from March through July, peaking from mid-April to mid-June. Adult sturgeon are in the river, presumably spawning, when temperatures range from 46 °F to 57 °F. Their preferred spawning substrate is large cobble, but substrates range from clean sand to bedrock. Eggs are broadcast-spawned and externally fertilized in relatively high water velocities and at depths of less than 10 feet. After spawning, adult green sturgeon usually hold for several months in deep pools near their spawning sites, in both the upper mainstem Sacramento River and in the Feather River.

Female green sturgeon produce 60,000 to 140,000 eggs, each approximately 0.15 inch in diameter. Eggs hatch approximately 196 hours after spawning, and larvae are 0.3 to 0.75 inch (8 to 19 mm) long. Juveniles range in size from less than 1 inch to almost 5 feet. Juveniles migrate to sea before 2 years of age, primarily during the summer and fall. They remain near estuaries at first, but may migrate considerable distances as they grow larger (National Oceanic Atmospheric Administration 2024). Both juvenile and adult green sturgeon are benthic feeders and may also eat small fish.

The species is known to migrate along the Feather River, which passes through the study area. Green sturgeon feed and may spawn along suitable substrate in the river.

3.4.4 Non-Listed Special-Status Wildlife

Bank Swallow (*Riparia riparia)*

Bank swallow is a California species of special concern.

Bank swallows typically set up nesting colonies in holes along rivers, streams, ocean coasts, and reservoirs. A nesting colony may consist of between 10 to 2,000 nests. Historically, bank swallows were more

commonly found around natural bluffs or eroding streamside banks; however, now they may nest in human-made sites, such as sand and gravel quarries or road cuts. They typically forage in open spaces and avoid areas with too much tree cover (Cornell Lab of Ornithology 2025).

A bank swallow nesting colony was incidentally observed on the Feather River bank during the summer of 2024, but it was located well outside of the study area around one mile northeast of Sunset Weir.

Western Red Bat (*Lasiurus blossevillii)*

Western red bat is a California species of special concern.

Western red bats are locally common in certain areas of California. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. The species feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. They roost primarily in trees, and less often in shrubs. Roosts sites are often in edge habitats adjacent to streams, fields, or urban areas. Family groups roost together and nursery colonies are found with many females and their young (Zeiner et al. 1990b).

The riparian forest may provide suitable roost sites for western red bat.

Pallid Bat (*Antrozous pallidus*)

Pallid bat is a California species of special concern.

Pallid bats occur throughout California except in parts of the high Sierra and the northwestern corner of the State (Zeiner et al. 1990b). The pallid bat inhabits a variety of habitats, such as grasslands, shrublands, woodlands, and forests; however, it is most abundant in open, dry habitats with rocky areas for roosting. Pallid bats roost alone, in small groups, or gregariously (Western Bat Working Group 2005). Roosts include caves, crevices in rocky outcrops and cliffs, mines, trees, and various human-made structures (e.g., bridges, barns, porches). Roosts generally have unobstructed entrances/exists and are high above the ground, warm, and inaccessible to terrestrial predators. Year-to-year and night-to-night roost reuse is common; however, bats may switch day roosts on a daily and seasonal basis.

The riparian forest may provide suitable roost sites for pallid bat.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*)

Townsend's big-eared bat is a California species of special concern.

Townsend's big-eared bats occur throughout California in all but subalpine and alpine habitats. They can be observed year-round across their known range. Over time the species has become considered uncommon; however, it is most abundant in mesic habitats. These bats roost in caves, mines, tunnels, buildings, or other human-made structures. They may use separate sites depending on the time of day, for hibernation roosts, or maternity roosts. Maternity roosts are in the warmest areas within its preferred roosting locations (Zeiner et al. 1990b).

The pump station and the buildings near the Yuba City staging area are the only potential structures that may provide suitable roost sites for Townsend's big-eared bats. They may forage within the riparian forest.

Western Mastiff Bat (*Eumops perotis*)

Western mastiff bat is a California species of special concern.

Western mastiff bats reside across California along the Coast Ranges, in the Sacramento and San Joaquin valleys, and in the Sierra Nevada going down to Southern California. They occur in open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, and desert scrub. They can also be found in urban areas. Western mastiff bats occupy crevices in cliff faces, tall buildings, trees, and tunnels for roosting. Nursery roosts are typically in tight rock crevices or crevices in buildings (Zeiner et al. 1990b).

The riparian forest may provide suitable roost sites for western mastiff bats.

Central Valley Fall-/Late Fall-Run Chinook Salmon (*Oncorhynchus tshawytscha*)

Central Valley fall-/late fall-run Chinook salmon is a California species of special concern.

Adult Central Valley fall-/late fall-run Chinook salmon enter the Sacramento River system from September through January and spawn from October through February. During spawning, the female digs a redd (gravel nest) in which she deposits her eggs, which are then fertilized by the male. Newly emerged fry remain in shallow, lower-velocity edgewaters, particularly where debris congregates and provides cover from predators (Moyle et al. 2015). The duration of egg incubation and time of fry emergence depends largely on water temperature. In general, eggs hatch after a 3- to 5-month incubation period, and alevins (yolk-sac fry) remain in the gravel until their yolk sacs are absorbed (2 to 3 weeks).

Juveniles typically rear in freshwater (in their natal streams and the Sacramento-San Joaquin Delta) for 3 to 6 months (fall-run) and up to 12 months (late fall-run) before entering the ocean. Juveniles migrate downstream from January through June. Juvenile Chinook salmon prefer water depths of 0.5 to 3.3 feet and velocities of 0.26 to 1.64 feet per second (Gard 2023). Important winter habitat for juvenile Chinook salmon includes flooded bars, side channels, and overbank areas with relatively low water velocities. Juvenile Chinook salmon have been found to rear successfully in floodplain habitat, which routinely floods but is dry at other times. Growth rates appear to be enhanced by the conditions found in floodplain habitat.

Cover structures, space, and food are necessary components for Chinook salmon rearing habitat. Suitable habitat includes areas with instream and overhead cover in the form of undercut banks, downed trees, and large, overhanging tree branches. The organic materials forming fish cover also help provide sources of food, in the form of both aquatic and terrestrial insects.

The study area overlaps with the Feather River, which is a known migration corridor of the species. Central Valley fall-/late fall-run Chinook salmon may feed and spawn along the Feather River.

3.5 Wildlife Movement Corridors

Wildlife movement corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or by areas of human disturbance or urban development.

Topography and other natural factors in combination with urbanization can fragment or separate large open-space areas. The fragmentation of natural habitat can create isolated "islands" of vegetation and habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. The retention of wildlife movement corridors ameliorates the effects of such fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished. Such movement may also promote genetic exchange between separated populations.

The study area is in the vicinity of the Feather River, its associated riparian forests along the riverbank, and the adjacent agricultural land. The Feather River is considered a fish movement corridor for common and special-status fish species, including those described previously, such as green sturgeon and Central Valley steelhead. These special-status fish species often migrate along the Feather River to go to and from their spawning grounds. However, the Sunset Weir rock barrier in the Feather River has obstructed fish migration. Its removal would promote undeterred open passage for many fish, including the special-status anadromous fish species. In addition to fish species, some mammalian species traverse along the Feather River, such as North American river otters.

The associated riparian forests have continuous connectivity along the Feather River, which provides suitable nesting, roosting, and foraging habitat for birds and bats. Although the long stretch of riparian forest provides habitat for different wildlife species, including osprey (*Pandion haliaetus*) that use large trees for nesting and the river for hunting fish, some sections of the riparian forest have been thinned due to large conversions of adjacent land into agriculture. The orchards within the agricultural lands provide habitat and a movement corridor for different bird and mammal species as well; however, fewer wildlife species occupy the orchards compared to the more natural riparian forest habitat along the Feather River. Only the more generalist wildlife species such as red-tailed hawks can use both the riparian forest and agriculture habitats.

3.6 Critical Habitat for Listed Fish and Wildlife Species

USFWS defines the term *critical habitat* in FESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

There is no critical habitat for listed terrestrial species within the study area.

The Feather River is designated as essential fish habitat for salmon and critical habitat for green sturgeon, Central Valley steelhead, and Central Valley spring-run Chinook salmon.

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CHAPTER 4
Recommendations

4.1 Habitat Impacts

The term *impact area* refers to the maximum area of disturbance associated with the construction of the Proposed Project. The footprint or description of the Proposed Project has yet to be finalized; thus it was not possible during the preparation of this report to quantify the amount of impacts to habitat types as a result of the construction and operation of the Proposed Project. As such, for the purposes of this chapter, it was assumed that potential habitat impacts could occur throughout the entire study area.

Habitats that may be impacted include riparian forest, annual grassland, riverine, and agriculture/cropland. Different impacts that may occur during construction of the Proposed Project include vegetation removal and clearing, grading of existing vegetated and barren dirt areas, excavations for pump installations, and in-water work around the existing rock weir.

4.2 Impacts to Sensitive Biological Resources

The following discussion describes the potential effects to sensitive biological resources as a result of Proposed Project development and provides recommended conservation measures (CMs) to protect these resources. This report will be used to inform the CEQA analysis and biological assessment in determining potential environmental impacts/effects, respectively, to sensitive biological resources as a result of the Proposed Project.

4.2.1 Potential Waters of the United States and Sensitive Natural Communities

The Feather River is considered jurisdictional under Section 404 of the Clean Water Act. Riparian forest is considered a sensitive natural community of special concern under CEQA and is also subject to protection under Section 1600 of Fish and Game Code. Impacts to these features would require the Proposed Project to obtain permits from regulatory agencies (Clean Water Act Section 404 permit, Clean Water Act Section 401 Water Quality Certification, Fish and Game Code Section 1600 Lake and Streambed Alteration Agreement). The following CMs are suggested to protect riverine habitat present within the Feather River and associated riparian habitat along the Feather River.

> **BMP-1:** Stakes and flagging will be used at the edge of the construction footprint if work is anticipated to occur within 50 feet of riparian areas that are proposed for avoidance. A biological monitor will be present during initial grading or vegetation-clearing activities within 50 feet of riparian areas proposed for avoidance.

BMP-2: The following best management practices to protect water quality will apply:

- The construction contractor will develop and implement a spill prevention, control, and countermeasure plan to minimize the potential for, and effects from, spills of hazardous, toxic, and petroleum substances during construction and maintenance. The plan will be completed before construction activities begin. The spill prevention, control, and countermeasure plan will describe containment facilities and practices, including refueling procedures, spill response actions for each material or waste, and procedures for notifying the appropriate agencies.
- Diesel fuel and oil will be used, stored, and disposed of in accordance with standard protocols for handling of hazardous materials.
- All personnel using hazardous materials will be trained in emergency response and spill control.
- All concrete washing and spoils dumping will occur in a designated location outside of jurisdictional waters, including the Feather River.
- Construction stockpiles will be covered or protected with soil stabilization measures (e.g., protection of seeding by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel) and a temporary sediment barrier to prevent blowoff or runoff during weather events.
- Erosion control materials and devices for severe-weather events will be stored on site for use as needed.
- Any excavated areas will be reseeded with an appropriate seed mix or otherwise treated to reduce erosion or siltation.
- Erosion control measures will be placed in areas that are upslope of aquatic habitat to prevent any soil or other materials from entering aquatic habitat. Silt fencing or natural/biodegradable erosion control measures (e.g., straw wattles and hay bales) will be used. Plastic monofilament netting (erosion control matting) will not be allowed because wildlife can become entangled in this type of erosion control material.
- To address potential effects on receiving water quality during the construction period, DWR will prepare and comply with any requirements identified in a stormwater pollution prevention plan to maintain water quality.

4.2.2 Valley Elderberry Longhorn Beetle

There are elderberry shrubs identified within and near the study area. The elderberry plants provide suitable habitat for the VELB. During the biological surveys, six elderberry shrubs or elderberry shrub complexes were identified and mapped within 50 meters (165 feet) of the study area (**Figure 6** and **Figure 6a**). Below are proposed CMs to minimize direct impacts to the species that could result from construction activities, such as accidentally removing elderberry shrubs, or indirect effects from airborne dust generated by vehicle and construction equipment traffic within the Proposed Project area.

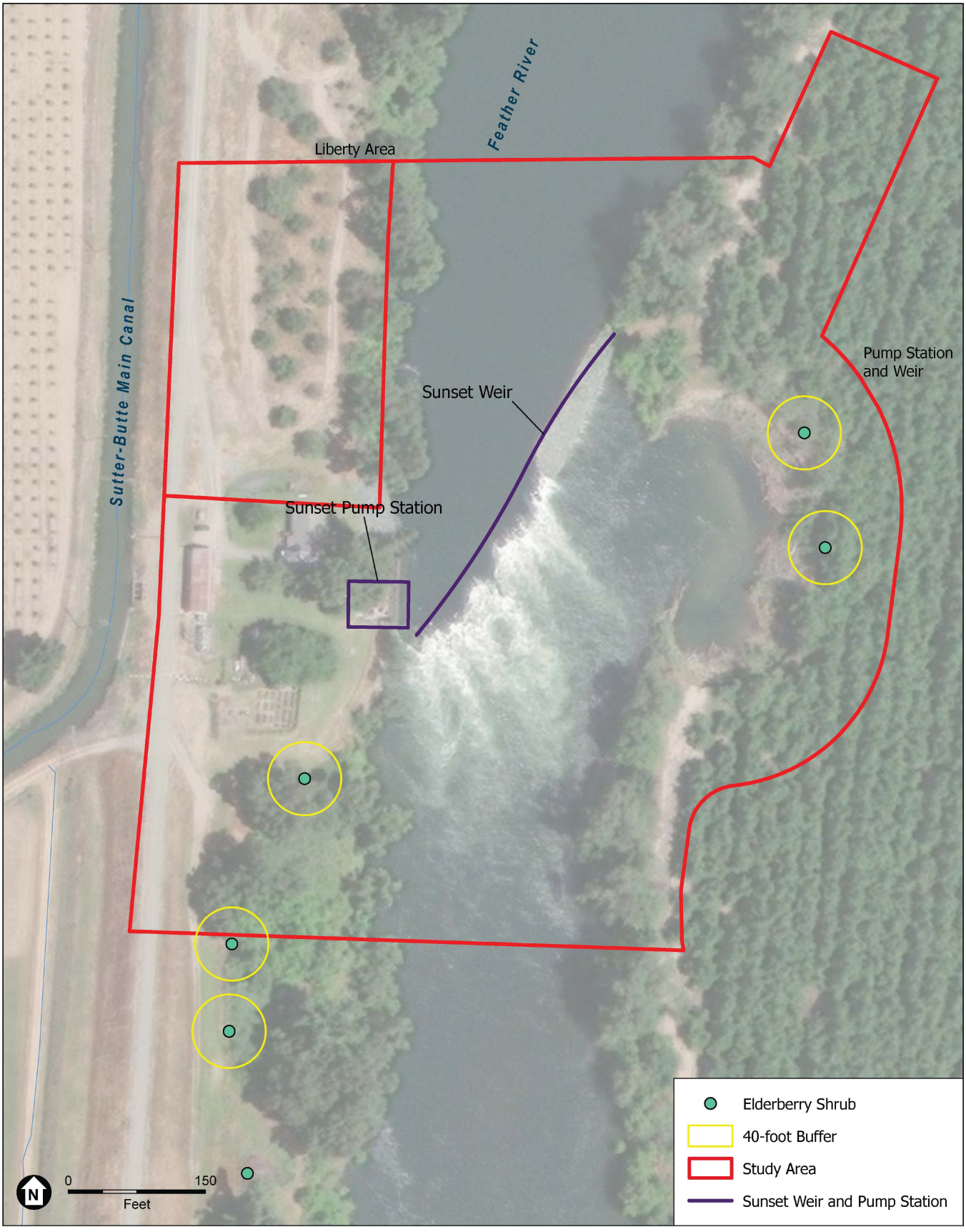


SOURCE: Esri, 2024; ESA, 2024

Sunset Weir and Pumps Fish Passage Project

Figure 6
Elderberry Shrubs

ESA



SOURCE: Esri, 2024; ESA, 2024

Sunset Weir and Pumps Fish Passage Project

Figure 6a
Elderberry Shrub Locations

ESA

VELB-1: All Proposed Project activities will avoid suitable elderberry shrubs, defined as shrubs with stem diameters of at least 1 inch when measured at ground level. Shrubs will be flagged or temporarily fenced, as needed, with guidance from a designated biologist.[2] These areas will be avoided by all Proposed Project personnel and activities. When feasible, fencing will be placed at least 20 feet from the dripline of each shrub, unless otherwise approved by USFWS.

VELB-2: DWR will not use insecticides, herbicides, or other chemicals that might harm VELB or its host plant within established buffers (100 feet) around elderberry shrubs. Mowing will not occur within 5 feet of any suitable elderberry stem (i.e., a stem 1 inch in diameter or greater).

VELB-3: If it is determined that any Proposed Project activity has the potential to result in the incidental take of VELB despite implementation of **VELB-1** and **VELB-2**, DWR will obtain take authorization under FESA. DWR will implement all measures developed through consultation with USFWS to mitigate the authorized take. The mitigation approach will conform to requirements stipulated by USFWS in its *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 2017).

4.2.3 Northwestern Pond Turtle

Suitable aquatic habitat for NWPT is only present in the Feather River within the study area around the rock weir and the scour pond within the study area. In-water work may have the potential to impact the species. Below are proposed CMs to minimize impacts to the species in case it is observed in the river prior to removal of the rock weir.

NWPT-1: A designated biologist will present a worker education and awareness program to all on-site personnel before materials staging or ground-disturbing activities begin. The biologist will explain to construction workers how best to avoid impacts on western pond turtle and will address the topics of species descriptions and identification, life history, and habitat requirements during various life stages. This education program can include handouts, illustrations, photographs, and Proposed Project maps showing areas of minimization and avoidance measures. The crew members will sign a sign-in sheet documenting that they received the training.

NWPT-2: Before construction activities occur, a designated biologist will conduct three preconstruction surveys (survey dates at least three days apart) within 100 feet of the Feather River before the establishment of staging areas during appropriate weather conditions (e.g. sunny periods between 8am to 12pm, and from 3pm until an hour before dusk; air temperatures 55.0-90.0 degrees Fahrenheit; wind speeds less than 12.0 mph) and daily at the start of construction and maintenance activities. Vehicles parked overnight on-site shall be checked before they are moved for the presence of western pond turtles that may be taking shelter under the vehicle.

NWPT-3: Should a northwestern pond turtle be observed during the preconstruction survey, the biologist will identify the location using GPS coordinates. DWR will revisit the identified locations within 8 hours of ground disturbance. A designated biologist may relocate the turtle found within the construction footprint to suitable habitat away from the construction zone, if such relocation is the only option to prevent injury or mortality of the turtle and other attempts to avoid interaction with the turtle have been used.

[2] The designated biologist will have a bachelor's degree in biological or environmental science, natural resources management, or related discipline; field experience in the habitat types that occur at the project area; familiarity with the listed species that may occur at the project area; and prior biological survey experience.

NWPT-4: If a northwestern pond turtle is observed in the Feather River or, although it is not anticipated, observed on land within the active construction zone, specifically in areas of ground disturbance, access routes, stockpile areas, or staging areas, DWR will immediately stop work within approximately 200 feet of the turtle and notify a designated biologist. If possible, the turtle will be allowed to leave on its own, and the designated biologist will remain in the area for the remainder of the workday to ensure that the turtle is not harmed. Alternatively, with prior USFWS and CDFW approval, the designated biologist may capture the turtle and relocate it unharmed to suitable habitat at least 200 feet from the Proposed Project area. If the turtle does not voluntarily leave the area and cannot be captured and relocated unharmed, construction activities within approximately 200 feet of the turtle will stop to prevent harm to the turtle, and CDFW will be consulted to identify next steps. DWR will implement the measures recommended by USFWS and CDFW before resuming Proposed Project activities in the area.

NWPT-5: To avoid the loss of western pond turtle nests and eggs as a result of construction, exclusion fencing shall be installed along the landward perimeter of the work areas to minimize the potential for turtles to nest in these areas if nests are observed during the pre-construction survey. The exclusion fencing shall extend down the channel bank. A small gap in the exclusion fencing may be present to facilitate ingress and egress of construction equipment and personnel into the work areas from nearby roadways, however this opening shall be minimized to the maximum extent feasible. The exclusion fencing shall consist of silt fence material and be at least 2 feet high. Fences shall be installed up to a depth of 6 inches below the ground surface to prevent turtles from going under the fence. The exclusion fencing will include coverboards spaced every 100 feet on either side to provide cover to western pond turtles that encounter the fence. Fences shall be installed between May 1 and October 1. The fencing will be inspected by a designated biologist before the start of each work day and maintained until after the barrier and associated equipment and material are completely removed.

4.2.4 Burrowing Owl

Although no suitable burrow habitat was observed within the study area, burrowing owls typically occur around open agricultural areas. The species may occur as a transient in the more open areas of the study area adjacent to the pumps or orchards. Below are proposed CMs to minimize impacts to burrowing owl in case an individual is observed in or near the study area.

BUOW-1: A designated biologist will conduct a preconstruction survey for burrowing owl and potentially suitable burrows within up to 500 feet of the Proposed Project area, where access is allowed, no more than 14 days prior to commencement of construction activities. If a burrowing owl or suitable burrow habitat is observed in the Proposed Project area, then a focused survey will be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012).

BUOW-2: A designated biologist will present a worker education and awareness program to all on-site construction personnel before materials staging or ground-disturbing activities begin. The program will describe how best to avoid impacts on burrowing owl and will address the topics of species descriptions and identification, life history, and habitat requirements during various life stages. This education program can include handouts, illustrations, photographs, and Proposed Project maps showing areas of minimization and avoidance measures. All construction personnel will sign a sign-in sheet documenting that they received the training.

4.2.5 Swainson's Hawk Nesting Habitat

The trees within the study area along the riparian forest provide potential nesting habitat for Swainson's hawk, including trees that may be removed as a result of construction activities associated with the Proposed Project. Below are proposed CMs to minimize impacts to Swainson's hawks that may potentially nest in or near the study area.

SWHA-1: If vegetation removal is to begin during the nesting season for Swainson's hawk (between March 1 and September 15), a designated biologist will conduct a minimum of one protocol-level preconstruction survey. The survey(s) will occur during the recommended survey periods for the nesting season that coincides with the start of construction activities, in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). Where legally permitted, the designated biologist will conduct surveys for nesting Swainson's hawk within 0.25 mile of the Proposed Project area.

SWHA-2: If active Swainson's hawk nests are found within 0.25 mile of construction or maintenance activities, the findings will be reported to CDFW following the preconstruction survey. For purposes of this avoidance and minimization requirement, *construction activities* are defined to include the operation of heavy equipment during construction (use of cranes or draglines, new rock-crushing activities) or other project-related activities that could cause nest abandonment or forced fledging within 0.25 mile of a nest site between March 1 and September 15. Should an active nest be present within 0.25 mile of a construction area, DWR will consult with CDFW to establish appropriate avoidance measures; determine whether high-visibility construction fencing will be erected around the buffer zone; and implement a monitoring and reporting program before any construction activities occur within 0.25 mile of the nest. Should the designated biologist determine that the construction activities are disturbing the nest, the biologist will halt construction activities until DWR consults with CDFW. The construction activities will not resume until CDFW determines that they will not result in abandonment of the nest site. Should the designated biologist determine that construction activities within the buffer zone have not disturbed the nest, DWR will report to CDFW summarizing the survey results within 30 days after the final monitoring event, and no further avoidance and minimization measures for nesting habitat are recommended.

4.2.6 Nesting and Migratory Birds

Migratory birds and birds of prey, protected under 50 CFR 10 of the Migratory Bird Treaty Act or Section 3503 of the California Fish and Game Code, have the potential to nest within the study area, including areas that would be impacted by Proposed Project construction. Below are proposed CMs to minimize impacts to migratory birds that may nest in or near the study area.

BIRD-1: If vegetation removal is to begin during the nesting season (February 15 to August 31), a designated biologist will conduct a preconstruction nesting survey before the vegetation is removed. The preconstruction survey will be conducted within 14 days before the start of ground-disturbing activities. If the survey shows no evidence of active nests, no additional measures are recommended. If construction does not begin within 14 days of the preconstruction survey, or if it halts for more than 14 days, an additional preconstruction survey is recommended.

BIRD-2: If any active nests are located in the Proposed Project area, the construction contractor will establish an appropriate buffer zone around the nests, as determined by a designated biologist.

Typical buffer zones are 100 feet for migratory bird nests, 250 feet for raptor nests, and 500 feet for western yellow-billed cuckoo, unless a qualified CDFW biologist determines that smaller buffers would be sufficient to avoid impacts. Factors to be considered for determining buffer size will include the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until a qualified CDFW biologist has determined that the young have fledged and are no longer reliant upon parental care for survival. The designated biologist will monitor nests daily during construction to evaluate whether construction activities have the potential to disturb nesting.

4.2.7 Bats

Trees and human-made structures within the study area have the potential to support day roosts or maternities for bats, and the riparian habitat may provide roosting habitat for special-status bats, including western red bat, pallid bat, Townsend's big-eared bat, and western mastiff bat. Below are proposed CMs to minimize impacts to bat species that may potentially roost near the study area.

BAT-1: Within 14 days before the beginning of removal of suitable bat roosting trees (larger than 24 inches in diameter at breast height), a designated biologist will conduct a preconstruction survey for special-status bats. If no special-status bats are observed roosting, no additional measures are required for the tree removal. If tree removal does not begin within 14 days of the preconstruction survey, or if removal halts for more than 14 days, a new survey will be conducted.

BAT-2: If bats are found in the area where construction-related activities will occur, a minimum 100-foot avoidance buffer will be established around the roost/maternity area until it is no longer occupied. High-visibility fencing will be installed around the buffer and will remain in place until bats no longer occupy the tree or structure. The tree or structure will not be removed or modified until a designated biologist has determined that the bats are no longer occupying the roost.

BAT-3: If construction activities must occur within the avoidance buffer, a designated biologist will monitor the work either continuously or periodically, as determined by the biologist. The designated biologist will be empowered to stop activities that, in the biologist's opinion, threaten to cause unanticipated or unpermitted adverse effects on special-status bats. If construction activities are stopped, the designated biologist will consult with CDFW to determine the appropriate measures to implement to avoid adverse effects.

4.2.8 Green Sturgeon, Central Valley Steelhead, Central Valley Spring-Run Chinook Salmon, and Central Valley Fall-/Late Fall-Run Chinook Salmon

The Proposed Project is intended to provide benefits for listed fish species, but construction activities have the potential to result in temporary direct and indirect impacts to these species. The following CMs are suggested to address these potential impacts.

FISH-1: DWR will submit a dewatering and fish rescue plan to National Marine Fisheries Service (NMFS) and CDFW before construction. NMFS- and CDFW-approved fish biologists will conduct fish rescues in isolated pools and channels in the Proposed Project area. These biologists will also rescue any fish trapped in the cofferdam area before dewatering. Fish rescue will also occur in the unlikely event that Feather River flows overtop the cofferdam. Methods used for capturing fish could include seining and dip netting. Water will be pumped and

discharged back into the Feather River from the cofferdam areas as needed to facilitate fish collection activities. Pump intakes will be fitted with appropriately sized, NMFS- or CDFW-approved fish screens to prevent fish from becoming entrained.

FISH-2: Silt curtains will be used around the in-water work to both minimize turbid water from flowing downstream and to discourage listed fish species from swimming into the in-water work area.

FISH-3: If Proposed Project activities must occur during non-daylight hours, a designated biologist will establish monitoring measures, including frequency and duration, based on fish species, individual behavior, and type of construction activities. When nighttime work cannot be avoided, nighttime lighting will be used only in the portion of the Proposed Project area actively being worked on (limited to a minimum distance of 200 feet from habitat for FESA-listed fish species), and will be focused directly on the work area. Lights on work areas will be shielded and focused to minimize lighting of FESA-listed fish species habitat. If the work area is located near surface waters, the lighting will be shielded to avoid shining directly into the water.

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CHAPTER 5
References and Report Preparation

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Appendix A
Regulatory Context

Federal

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) (16 U.S. Code [USC] 153 et seq.), the Migratory Bird Treaty Act (16 USC 703–711), and the Bald and Golden Eagle Protection Act (16 USC 668). These regulations are described below.

Federal Endangered Species Act. Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 USC 1533[c]). Two federal agencies oversee FESA: USFWS has jurisdiction over plants, wildlife, and resident fish, while the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of FESA mandates that federal agencies consult with USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. FESA prohibits the "take"[3] of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project area and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Critical Habitat. USFWS designates critical habitat for listed species under FESA. Critical habitat designations are specific areas within the geographic region that are occupied by a listed species that are determined to be critical to the survival and recovery of the listed species in accordance with FESA. Federal entities issuing permits or acting as a lead agency must show that their actions do not negatively affect the critical habitat to the extent that it impedes the recovery of the species.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (16 USC 703 Supp. I, 1989) generally prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs, and nests, except as provided by the statute.

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act, enforced by USFWS, makes it illegal to import, export, take (which includes to molest or disturb), sell, purchase, or barter any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or parts thereof.

[3] Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

U.S. Army Corps of Engineers

Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Most recently, the Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of the federal CWA's protection for the nation's waters. As a result of this decision, the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE) issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S. Supreme Court's decision (88 Federal Register 61964–61969, September 8, 2023).

Under the "Revised Definition of 'Waters of the United States'; Conforming" rule, the term "waters of the United States" is defined as follows (33 Code of Federal Regulations [CFR] 328.3[a]):

(1) Waters which are:

  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

  (ii) The territorial seas; or

  (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

  (i) Waters identified in paragraph (a)(1) of this section; or

  (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3[b]) that are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of

agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Section 402

Under CWA Section 402, the State Water Resources Control Board (State Water Board) has adopted a General Construction Activity Storm Water Permit (General Permit) for stormwater discharges associated with any construction activity including clearing, grading, excavation reconstruction, and dredge-and-fill activities that results in the disturbance of at least 1 acre of total land area. The general permit requires the site owner to notify the State, to prepare and implement a stormwater pollution prevention plan (SWPPP), and to monitor the effectiveness of the plan.

De minimis discharge activities that are regulated by an individual or general National Pollutant Discharge Elimination System (NPDES) permit, such as discharges resulting in construction dewatering, also require the General Order for Dewatering and Other Low Threat Discharge to Surface Waters Permit (Section 402). Project applicants/proponents should apply for this permit concurrently with the NPDES permit application.

Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Waters of the United States are under the jurisdiction of USACE and EPA.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general nationwide permit until the requirements of the National Environmental Policy Act, FESA, and the National Historic Preservation Act have been met. In addition, USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

State

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW), formerly identified as the California Department of Fish and Game, administers a number of laws and programs designed to protect fish and wildlife resources under the California Fish and Game Code, such as the California Endangered Species Act (CESA) (Section 2050 et seq.), Fully Protected Species (Section 3511), Native Plant Protection Act (Sections 1900–1913), and Lake or Streambed Alteration Agreement Program (Sections 1600–1616). These regulations are described below.

California Endangered Species Act. In 1984, the State of California implemented CESA, which prohibits the take of State-listed endangered and threatened species; although, habitat destruction is not included in the State's definition of take. Section 2090 requires State agencies to comply with endangered species protection and recovery and to promote conservation of these species. CDFW administers the act and authorizes take through California Fish and Game Code, Section 2081 agreements (except for designated "fully protected species," see below). Unlike its federal counterpart, CESA protections apply to candidate species that have been petitioned for listing.

Regarding listed rare and endangered plant species, CESA defers to the California Native Plant Protection Act (see below).

California Fish and Game Code Section 3503. California Fish and Game Code, Section 3503.5 provides that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Construction activities that result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment or reproductive failure are considered a "take" by CDFW. Any loss of eggs, nests, or young, or any activities resulting in nest abandonment would constitute a significant project impact.

Fully Protected Species. Certain species are considered *fully protected*, meaning that the California Fish and Game Code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

It is possible for a species to be protected under the California Fish and Game Code, but not fully protected. For instance, mountain lion (*Puma concolor*) is protected under Section 4800 et seq., but is not a fully protected species.

Native Plant Protection Act. California Fish and Game Code Section 1900–1913, also known as the Native Plant Protection Act, is intended to preserve, protect, and enhance endangered or rare native plants

in California. The act directs CDFW to establish criteria for determining rare or endangered native plants. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more cause. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered. The act also directs the California Fish and Game Commission to adopt regulations governing the take, possession, propagation, or sale of any endangered or rare native plant.

California Rare Plant Ranking System. CDFW works in collaboration with the California Native Plant Society to maintain a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. These species are categorized by rarity in the California Rare Plant Rank (CRPR). This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CRPR species may receive consideration under California Environmental Quality Act (CEQA) review. The following identifies the definitions of the CRPR:

Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

Rank 2A: Plants presumed extirpated in California, but more common elsewhere.

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

Rank 3: Plants about which more information is needed - A Review List.

Rank 4: Plants of limited distribution - A Watch List.

In general, plants with CRPR 1A, 1B, or 2 are considered to meet the criteria of CEQA Guidelines, Section 15380. Additionally, plants with CRPR Rank 1A, 1B, or 2 meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (CESA) of the California Fish and Game Code.

Lake or Streambed Alteration Program. CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Section 1602 of the California Fish and Game Code requires notification of CDFW for lake or stream alteration activities. If, after notification is complete, CDFW determines that the activity may substantially adversely affect an existing fish and wildlife resource, CDFW has authority to issue a Streambed Alteration Agreement under Section 1603 of the California Fish and Game Code. Requirements to protect the integrity of biological resources and water quality are often conditions of Streambed Alteration Agreements. These may include avoidance or minimization of heavy equipment use within stream zones, limitations on work periods to avoid impacts to wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

Species of Special Concern. CDFW maintains lists for candidate-endangered species and candidate-threatened species. California candidate species are afforded the same level of protection as listed species. California also designates species of special concern, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species, but may be added to official lists in the future. CDFW intends the species of special concern list to be a management tool for consideration in future land use decisions. The Special Plants and Special Animal lists are available online at: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

State Water Resources Control Board

Porter Cologne Water Quality Act. The State Water Board and the Regional Water Quality Control Boards (together "Boards") are the principal State agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Water Quality Control Act (Porter-Cologne), the Legislature declared that the "state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation..." (California Water Code Section 13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the State. The *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Wetland Definition and Procedures), as prepared by the State Water Board, was adopted April 2, 2019, and revised April 6, 2021. The State Wetland Definition and Procedures include a definition for wetland waters of the State and exclusions for certain artificial wetlands.

Waters of the State determined to be jurisdictional would require, if impacted, waste discharge permitting or a Clean Water Act Section 401 certification (in the case of the required USACE permit). The enforcement of the State's water quality requirements is not solely the purview of the Boards and their staff. Other agencies (e.g., the CDFW) have the ability to enforce certain water quality provisions in State law.

CEQA Guidelines, Section 15380

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines, Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. These criteria have been modeled after the definition of FESA and the section of California Fish and Game Code discussing rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily for situations in which a public agency is reviewing a project that may have a significant effect on a candidate species that has not yet been listed by CDFW or USFWS. CEQA provides the ability to protect species from potential project impacts until the respective agencies have the opportunity to designate the species protection.

CEQA also specifies the protection of other locally or regionally significant resources, including natural communities or habitats. Although natural communities do not presently have legal protection, CEQA requires an assessment of such communities and potential project impacts. Natural communities that are identified as sensitive in the California Natural Diversity Database are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general and area plans often identify natural communities.

Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan

The Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) is a cooperative planning effort initiated by Yuba and Sutter counties in connection with improvements to Highways 99 and 70 and future development in the area surrounding those highways. The planning area currently encompasses most of these two counties. The draft plan currently covers four different plant species and 15 wildlife species. Since the NCCP/HCP is still in development, there are no requirements for compliance.

Appendix B

Agency Lists and Special-Status Species Considered in the Study Area

TABLE B-1
SPECIAL-STATUS SPECIES CONSIDERED IN THE STUDY AREA

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Plants				
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	--/--/1B.1	Annual herb found in meadows and seeps (vernally mesic), and valley and foothill grassland (subalkaline flats). Elevation 7–250 feet.	Blooming period: April–May	**None.** Suitable meadow and seep or other wetland habitat is not present in the study area. Soil conditions are dry during the warmer seasons. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Heartscale *Atriplex cordulata* var. *cordulata*	--/--/1B.2	Annual herb found in saline or alkaline soils, chenopod scrub, meadows and seeps, and valley and foothill grassland (sandy). Elevation 0–1,840 feet.	Blooming period: April–October	**None.** Suitable chenopod scrub, meadow, and seep habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Lesser saltscale *Atriplex minuscula*	--/--/1B.1	Annual herb found in chenopod scrub, playas, and valley and foothill grassland. Elevation 50–655 feet.	Blooming period: May–October	**None.** Suitable chenopod scrub and playa habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Subtle orache *Atriplex subtilis*	--/--/1B.2	Annual herb found in valley and foothill grassland. Elevation 130–330 feet.	Blooming period: (April) June–September (October)	**None.** Suitable habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation. No *Atriplex* sp. plants were observed during the surveys.
Pink creamsacs *Castilleja rubicundula* var. *rubicundula*	--/--/1B.2	Hemiparasitic annual herb found in chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland. Elevation 65–2,985 feet.	Blooming period: April–June	**None.** Suitable habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	--/--/1B.2	Annual herb found in chaparral, coastal prairies, meadows and seeps, marshes and swamps, and valley and foothill grasslands. Often found in alkaline soils. Elevation 0–1,380 feet.	Blooming period: May–November	**None.** Suitable meadow, seep, and marsh habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Recurved larkspur *Delphinium recurvatum*	--/--/1B.2	Perennial herb found in chenopod scrub, cismontane woodland, and valley and foothill grassland. Elevation 10–2,600 feet.	Blooming period: March–June	**None.** Suitable chenopod scrub habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Water star-grass *Heteranthera dubia*	--/--/2B.2	Perennial aquatic herb found in marshes and swamps. Requires alkaline conditions. Usually found in slow-moving, slightly eutrophic waters. Elevation 100–4,905 feet.	Blooming period: July–October	**None.** Suitable marsh and swamp habitat is not present in the study area. There are no slow-moving eutrophic waters in the study area. The only aquatic feature in the study area is the Feather River.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	--/--/1B.2	Perennial herb found in marshes and swamps (freshwater). Often found in riprap on sides of levees. Elevation 0–390 feet.	Blooming period: June–September	**Low.** Species can be found along levees in riprap. None were observed during the surveys.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	--/--/1B.2	Annual herb found in valley and foothill grassland. Elevation 100–750 feet.	Blooming period: March–May	**None.** Suitable habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Colusa layia *Layia septentrionalis*	--/--/1B.2	Annual found in sandy serpentine soils, chaparral, cismontane woodland, and valley and foothill grassland. Elevation 330–3,600 feet.	Blooming period: April–May	**None.** Suitable habitat and sandy serpentine soils are not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Veiny monardella *Monardella venosa*	--/--/1B.1	Annual herb found in heavy clay, cismontane woodland, and valley and foothill grassland. Elevation 200–1,350 feet.	Blooming period: June–July	**None.** Suitable habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Baker's navarretia *Navarretia leucocephala* subsp. *bakeri*	--/--/1B.1	Annual herb found in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 16–5,710 feet.	Blooming period: April–July	**None.** Suitable vernal pool and wetland habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Annual herb found in vernal pools. Elevation 115–5,775 feet.	Blooming period: April–September (October)	**None.** Suitable vernal pool and wetland habitat is not present in the study area.
Ahart's paronychia *Paronychia ahartii*	--/--/1B.1	Annual herb found in cismontane woodland, valley and foothill grassland, and vernal pools. Elevation 100–1,675 feet.	Blooming period: February–June	**None.** Suitable vernal pool and wetland habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Hartweg's golden sunburst *Pseudobahia bahiifolia*	FE/CE/1B.1	Annual herb found in clay (often acidic soil), cismontane woodland, and valley and foothill grassland. Elevation 50–490 feet.	Blooming period: March–April	**None.** Suitable habitat is not present in the study area. The only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
California alkali grass *Puccinellia simplex*	--/--/1B.2	Annual herb found in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 5–3,050 feet.	Blooming period: March–May	**None.** Suitable vernal pool and wetland habitat is not present in the study area. Although they can be found in grassland areas, the only annual grassland habitat within the study area is along the levee road slopes, which consists predominantly of non-native ruderal vegetation.
Sanford's arrowhead Sagittaria sanfordii	--/--/1B.2	Perennial rhizomatous herb found in marshes and swamps. Elevation 0–2,135 feet.	Blooming period: May–October (November)	**Low.** Can be found along levees and in riprap. None were observed during the surveys.
Greene's tuctoria *Tuctoria greenei*	FE/CR/1B.1	Annual herb found in vernal pools. Elevation 100–3,510 feet.	Blooming period: May–July (September)	**None.** Suitable vernal pool and wetland habitat is not present in the study area.
Brazilian watermeal *Wolffia brasiliensis*	--/--/2B.3	Perennial aquatic herb found in marshes and swamps. Elevation 65–330 feet.	Blooming period: April–December	**None.** Suitable marsh, swamp, or other wetland habitat is not present in the study area.
Wildlife				
Invertebrates				
Monarch butterfly *Danaus plexippus*	FC/--/--	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Primary feeding plant for larval stage is milkweed. Milkweed is required for egg laying.	April–September	**None**. Suitable roosting habitat is not present on site and no milkweed was observed during surveys. Overwintering mostly occurs in the California central coast, which is outside of the study area's range.
Crotch's bumble bee *Bombus crotchii*	--/CCE/--	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Colony Active Period: April–August	**None**. Flowering plants preferred by the species were not observed during the surveys.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Adults emerge in spring until June. Exit holes visible year-round.	**Moderate**. Multiple elderberry shrubs are present in and near the study area. However, none of the elderberry shrubs had exit holes or others signs of previous occupation by the species.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/--/--	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	USFWS protocol-level wet-season sampling or dry season cyst identification.	**None**. The study area does not provide suitable aquatic habitat for this species. No wetlands or vernal pools were observed in the study area.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/--/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	USFWS protocol-level wet-season sampling or dry season cyst identification.	**None**. The study area does not provide suitable aquatic habitat for this species. No wetlands or vernal pools were observed in the study area.
Amphibians/Reptiles				
California tiger salamander *Ambystoma californiense*	FT/CT/--	Found in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stockponds, in grassland and oak savannah plant communities from 10 to 3,450 feet.	Aquatic surveys of breeding sites between March and May.	**None**. The study area does not provide habitat for this species. There are no seasonal wetlands or vernal pools in the study area.
Foothill yellow-legged frog *Rana boylii*	FC/SC/--	Inhabits partially shaded, rocky streams with perennial flow at low to moderate elevations, in areas of chaparral, open woodland, and forest. Elevation range extends from sea level to around 7,000 feet.	Surveys of breeding sites between April and June.	**None**. The study area lacks the suitable rocky stream aquatic habitat with riffles for this species.
Giant garter snake *Thamnophis gigas*	FT/CT/--	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November to mid-March).	Active outside of dormancy period between November and mid-March.	**None**. The study area lacks suitable aquatic habitat for the species.
Northwestern pond turtle *Actinemys marmorata*	FC/CSC/--	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period between November and February.	**High**. Two individuals were observed in the Feather River basking on logs outside of the study area. There is potential for them to occur in the Feather River near the Sunset Weir rock barrier, and around the scour pond. However, it is unlikely for turtles to traverse the steep banks of the Feather River onto the upland portion of the study area. The upland portion of the study area does not provide suitable upland nesting habitat for the species. No turtles were observed while surveying in the upland areas.
Western spadefoot *Spea hammondii*	FPT/CSC/--	Occurs primarily in grassland habitat. They breed mainly in vernal pools, seasonal wetlands, and temporary rain pools which lack bullfrogs, fish or crayfish.	Breeding Surveys: February to March	**None**. The study area lacks both suitable breeding habitat and upland grassland habitat for this species.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Fish				
Delta smelt *Hypomesus transpacificus*	FT/SE/--	Found in open surface waters in the Sacramento-San Joaquin Delta (Delta). Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	Spawn December–July. Present year-round in the Delta.	**None**. The study area is outside the distribution range of this species.
Central Valley DPS steelhead *Oncorhynchus mykiss*	FT/--/--	Inhabits rivers and streams tributary to the Sacramento and San Joaquin rivers and Delta ecosystems.	Spawn in winter and spring.	**Present**. This species is seasonally present in the Feather River.
Central Valley ESU spring-run Chinook salmon *Oncorhynchus tshawytscha*	FT/ST/--	Inhabits rivers and streams tributary to the Sacramento and San Joaquin rivers and Delta ecosystems.	Spawn in late summer and fall.	**Present**. This species is seasonally present in the Feather River.
Central Valley ESU fall- / late fall-run Chinook salmon *Oncorhynchus tshawytscha*	EFH/CSC/--	Inhabits rivers and streams tributary to the Sacramento and San Joaquin rivers and Delta ecosystems.	Spawn in fall and winter.	**Present**. This species is seasonally present in the Feather River.
Green sturgeon *Acipenser medirostris*	FT/CSC/--	Spawns in large cobble in deep and turbulent mainstem rivers. The Southern DPS spawns in the Sacramento River basin and in the Sacramento–San Joaquin Delta and estuary.	Year-round	**Present**. This species is seasonally present in the Feather River.
Birds				
Bank swallow *Riparia riparia*	--/CT/--	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April–July	**Low.** While there was a nesting colony incidentally observed along the Feather River bank, it was well outside the study area at approximately one mile northeast of Sunset Weir.. No nesting colony was observed in the study area during the surveys.
Burrowing owl *Athene cunicularia*	--/CSC/--	Forages in open plains, grasslands, and prairies. Typically nests in abandoned small mammal burrows.	Year-round; breeding season surveys between March and August.	**Moderate.** Although the study area is within agricultural land, no suitable burrows for the species to occupy for wintering and nesting were observed. However, it is possible for burrowing owls to pass through the study area as a transient while foraging or migrating.
California black rail *Laterallus jamaicensis coturniculus*	--/CT/--	Found in saltwater, brackish, and freshwater marshes. Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Year-round	**None**. The study area does not provide suitable wetland and marsh habitat for this species.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Greater sandhill crane *Grus canadensis tabida*	--/CT/--	Nests in wetland habitats in northeastern California; winters in the Central Valley.	September–February	**None.** The study area does not support suitable roosting or foraging wetland habitat for this species.
Song sparrow ("Modesto" population) *Melospiza melodia*	--/CSC/--	Nests on the ground and in marshes. Inhabits grassland, chaparral, orchard, woodland, wetland, riparian, and scrub-shrub habitats.	February–September	**Moderate.** Although no song sparrows were observed during any of the surveys, there is potential nesting habitat in the riparian forest along the Feather River.
Swainson's hawk *Buteo swainsoni*	--/CT/--	Nests peripherally to valley riparian systems lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	March–October	**High**. The riparian forest along the Feather River provides suitable nesting habitat for Swainson's hawk. There are multiple CNDDB occurrences within 5 miles of the study area.
Tricolored blackbird *Agelaius tricolor*	--/CT/-- (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies of at least 50 pairs (up to thousands of individuals).	Year-round	**None**. Some areas within the riparian forest have blackberry brambles in them. However, the density of the blackberry brambles is insufficient to provide suitable habitat for a nesting colony.
Least Bell's vireo *Vireo bellii pusillus*	FE/CE/--	Nests in shrubs or low trees usually in horizontal or downsloping twig fork, typically near edge of a thicket. Found in willow-dominated woodlands.	March–August	**None.** The study area is outside of this species known range.
Northern harrier *Circus hudsonius*	--/CSC/--	Found in open terrain where good ground cover is present. Often found in marshes, especially during nesting season, but will also nest in dry open fields.	March–August	**None.** There are no marsh or open fields in or near the study area.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/CE/--	Nests in riparian forests, along the broad, lower flood-bottoms of larger river systems, particularly in willows, cottonwoods, and with a lower story of blackberry, nettles, or wild grape.	June–August	**Low.** Although the riparian forests consisting of willows, cottonwoods, and Himalayan blackberry provide potentially suitable nesting habitat for the species, none were observed during the surveys. There are two CNDDB occurrence records within 5 miles of the study area; however, one occurrence is from 1976 and was observed in the vicinity of the confluence of Feather and Yuba rivers. The other is from 1986 and was located along the Feather River north of Marysville. The last survey conducted in this area that is documented in the CNDDB was in 2014, with negative results. Also, 2 years of surveys conducted in 2012 and 2013 along the Feather River had negative results (Dettling 2015). This species has not been observed in this area for a long time.

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur
Bald eagle *Haliaeetus leucocephalus*	FD/CE/--	Breeding habitat occurs near bodies of water. Nests are usually in tall trees or on cliffs near water.	February–August	**Moderate.** Although there are some tall trees within the study area, this species typically prefers isolated trees that are on their own or taller than the others. None of the trees in the study area were tall or large enough to be a suitable nest tree for the species. However, bald eagles could potentially be foraging along the Feather River near or within the study area. No bald eagles were observed during the surveys.
Mammals				
Western red bat *Lasiurus blossevillii*	--/CSC/--	Inhabits cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland.	Year-round	**Moderate**. There is potential roosting habitat for this species in the riparian trees along the Feather River. There are no known occurrences of this species in the vicinity of the study area.
Marysville California kangaroo rat *Dipodomys californicus eximius*	--/CSC/--	Inhabits chaparral and valley and foothill grasslands. Known only in the Sutter Buttes area.	Year-round	**None**. The study area is outside the known distribution range of this species.
Pallid bat *Antrozous pallidus*	--/CSC/--	Inhabits deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky roosting areas.	Year-round	**Moderate.** There is potential roosting habitat for this species in the riparian area along the Feather River. No bats or signs of bat use were observed during the surveys.
Townsend's big-eared bat *Corynorhinus townsendii*	--/CSC/--	Most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roost sites. Typically feeds on moths in flight or other insects along habitat edges around brush or trees.	Year-round	**Moderate.** The only buildings within the study area where these bats may roost are the pump station and the structures around the Yuba City staging area. There is no cave habitat within the study area. The edges of the riparian forest may provide foraging habitat for the species.
Western mastiff bat *Eumops perotis californicus*	--/CSC/--	Primarily roosts in rock outcrops and buildings, but may use trees, tunnels, and cliff faces as well. Feeds on insects in flight.	Year-round	**Moderate.** This species primarily roost in rock outcrops and buildings. The trees along the Feather River may provide roosting habitat. The bats may also roost in the building at the pump station near Sunset Weir.
American badger Taxidea taxus	--/CSC/--	Occupies herbaceous, shrub, and open stages of most habitats with dry, friable soils. Digs dens in friable soil for cover. Feeds mostly on rodents, but may also feed on reptiles, insects, birds, eggs, and carrion.	Year-round	**None.** Soils in the study area are compacted and not friable. Few prey options are available in the study area. The annual grassland habitat within the study area for use by badgers is also limited.

NOTES: CDFW = California Department of Fish and Wildlife; CNDDB = California Natural Diversity Database; CNPS = California Native Plant Society; CRPR = California Rare Plant Rank; DPS = distinct population segment; ESU = evolutionarily significant unit; USFWS = U.S. Fish and Wildlife Service

STATUS CODES

Federal:

FE = federal endangered
FT = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting

California:

CE = California State endangered
CT = California State threatened
CR = California Sate rare
CSC = California species of special Concern

CNPS Rank Categories:

1A = Plants presumed extirpated in California and either rare or extinct elsewhere
1B = Plants Rare, Threatened, or Endangered in California and elsewhere.
2A = Plants presumed extirpated in California, but more common elsewhere

Common Name *Scientific Name*	Status (Federal/State/ CRPR)	Habitat Requirements	Identification/ Survey Period	Potential to Occur

FD = delisted
EFH = Essential Fish Habitat
CCT = California State threatened candidate
CFP = California fully protected
2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Plants about which more information is needed - A Review List
4 = Plants of limited distribution - A Watch List

CNPS Code Extensions:

.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (less than 20% of occurrences threatened or no current threats known)

SOURCES:

California Department of Fish and Wildlife. 2024. California Natural Diversity Database (CNDDB) search for the U.S. Geological Survey 7.5-minute Gridley topographic quadrangle and surrounding 8 quadrangles. Viewed online at: https://wildlife.ca.gov/Data/CNDDB. Accessed October 23, 2024.

California Native Plant Society. 2024. Inventory of Rare and Endangered Plants. [Online Edition, Volume 9.5.] Sacramento (CA): California Native Plant Society. Viewed online at: https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants. Accessed October 23, 2024.

Dettling MD, Seavy NE, Howell CA, Gardali T. 2015. "Current Status of Western Yellow-Billed Cuckoo along the Sacramento and Feather Rivers, California." PLoS ONE Volume 10. Issue 4. e0125198. Available: https://doi.org/10.1371/journal.pone.0125198.

U.S. Fish and Wildlife Service. 2025. List of Threatened and Endangered Species that may Occur in Your Proposed Project Location, and/or may be Affected by Your Proposed Project. Project Code: 2023-0103850. January 29, 2025.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 01/29/2025 18:46:48 UTC
Project Code: 2023-0103850
Project Name: Sunset Weir and Pump Fish Passage Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2023-0103850
Project Name: Sunset Weir and Pump Fish Passage Project
Project Type: Restoration / Enhancement of Waterbody
Project Description: Sunset Weir removal
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.2852594,-121.62872493793536,14z



Counties: Butte , Sutter , and Yuba counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Pacific Northwest NEP No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8193	Experimental Population, Non-Essential
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

NAME	STATUS
Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

FLOWERING PLANTS

NAME	STATUS
Hartweg's Golden Sunburst *Pseudobahia bahiifolia*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1704

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: California Department of Water Resources
Name: Daniel Huang
Address: 2600 Capitol Avenue Suite 200
City: Sacramento
State: CA
Zip: 95816
Email dhuang@esassoc.com
Phone: 9165644500

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Gridley (3912136) OR Sutter (3912126) OR Sutter Buttes (3912127) OR Yuba City (3912125) OR Honcut (3912135) OR Pennington (3912137) OR Olivehurst (3912115) OR Tisdale Weir (3912117) OR Gilsizer Slough (3912116))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Antigone canadensis tabida greater sandhill crane	ABNMK01014	None	Threatened	G5T5	S2	FP
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calycadenia spicata spicate calycadenia	PDAST1P090	None	None	G3?	S3	1B.3
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal and Valley Freshwater Marsh						
Coccyzus americanus occidentalis	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
western yellow-billed cuckoo						
Delphinium recurvatum	PDRAN0B1J0	None	None	G2?	S2	1B.2
recurved larkspur						
Desmocerus californicus dimorphus	IICOL48011	Threatened	None	G3T3	S3	
valley elderberry longhorn beetle						
Dipodomys californicus eximius	AMAFD03071	None	None	G4T1	S1	SSC
Marysville California kangaroo rat						
Elanus leucurus	ABNKC06010	None	None	G5	S3S4	FP
white-tailed kite						
Erethizon dorsatum	AMAFJ01010	None	None	G5	S3	
North American porcupine						
Gonidea angulata	IMBIV19010	None	None	G3	S2	
western ridged mussel						
Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Cottonwood Riparian Forest						
Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Mixed Riparian Forest						
Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Great Valley Valley Oak Riparian Forest						
Haliaeetus leucocephalus	ABNKC10010	Delisted	Endangered	G5	S3	FP
bald eagle						
Heteranthera dubia	PMPON03010	None	None	G5	S2	2B.2
water star-grass						
Hibiscus lasiocarpos var. occidentalis	PDMAL0H0R3	None	None	G5T3	S3	1B.2
woolly rose-mallow						
Juncus leiospermus var. ahartii	PMJUN011L1	None	None	G2T1	S1	1B.2
Ahart's dwarf rush						
Lasionycteris noctivagans	AMACC02010	None	None	G3G4	S3S4	
silver-haired bat						
Laterallus jamaicensis coturniculus	ABNME03041	None	Threatened	G3T1	S2	FP
California black rail						
Layia septentrionalis	PDAST5N0F0	None	None	G2	S2	1B.2
Colusa layia						
Lepidurus packardi	ICBRA10010	Endangered	None	G3	S3	
vernal pool tadpole shrimp						
Linderiella occidentalis	ICBRA06010	None	None	G2G3	S2S3	
California linderiella						
Melospiza melodia pop. 1	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
song sparrow ("Modesto" population)						

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Monardella venosa veiny monardella	PDLAM18082	None	None	G1	S1	1B.1
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Oncorhynchus tshawytscha pop. 11 chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	G5T2Q	S2	
Paronychia ahartii Ahart's paronychia	PDCAR0L0V0	None	None	G3	S3	1B.1
Pseudobahia bahiifolia Hartweg's golden sunburst	PDAST7P010	Endangered	Endangered	G1	S1	1B.1
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
Rana boylii pop. 3 foothill yellow-legged frog - north Sierra DPS	AAABH01053	None	Threatened	G3T2	S2	
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Spinus lawrencei Lawrence's goldfinch	ABPBY06100	None	None	G3G4	S4	
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trichocoronis wrightii var. wrightii Wright's trichocoronis	PDAST9F031	None	None	G4T3	S1	2B.1
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	
Wolffia brasiliensis Brazilian watermeal	PMLEM03020	None	None	G5	S2	2B.3

Record Count: 57

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

30 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3912125:3912135:3912115:3912137:3912136:3912126:3912117:3912116:3912127]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	Yes	1994-01-01	No Photo Available
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G4G5T3	S3	4.2	Yes	2019-01-07	 © 2011 Steven Perry

Calycadenia spicata	spicate calycadenia	Asteraceae	annual herb	May-Sep	None	None	G3?	S3	1B.3		2023-04-05	 © 2023 Christopher Bronny
Castilleja rubicundula var. *rubicundula*	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	None	None	G5T2	S2	1B.2	Yes	2001-01-01	 ©2010 Vernon Smith
Centromadia parryi ssp. *parryi*	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	Yes	2004-01-01	 © 2016 John Doyen
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Yes	2007-05-22	 © 2019 John Doyen
Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G4	S3	4.2		2018-06-26	No Photo Available
Darlingtonia californica	California pitcherplant	Sarraceniaceae	perennial rhizomatous herb (carnivorous)	Apr-Aug	None	None	G4	S4	4.2		1980-01-01	 © 2021 Scot Loring
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2	1B.2	Yes	1988-01-01	No Photo Available
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	None	None	G3G4	S3S4	4.3	Yes	1974-01-01	 Neal Kramer 2020
Hemizonia congesta ssp. *calyculata*	Mendocino tarplant	Asteraceae	annual herb	Jul-Nov	None	None	G5T4	S4	4.3	Yes	1974-01-01	 © 2015 John Doyen
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2017 John Doyen

Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	G5	S2	2B.2		2013-10-10	 ©2010 Louis-M. Landry
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	1974-01-01	 © 2020 Steven Perry
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	Yes	1984-01-01	 © 2004 Carol W. Witham
Lathyrus delnorticus	Del Norte pea	Fabaceae	perennial herb	Jun-Jul	None	None	G4	S3	4.3		1974-01-01	 © 2016 Keir Morse
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2013 Jake Ruygt
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	Yes	1994-01-01	 © 2007 Len Blumin
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May-Jul	None	None	G1	S1	1B.1	Yes	1984-01-01	 © 2007 George W. Hartwell
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1	Yes	1994-01-01	 © 2018 Barry Rice
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	G3	S3	1B.1	Yes	1988-01-01	 © 2004 Carol W. Witham
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available

Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	 © 2017 Chris Winchell
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook
Smilax jamesii	English Peak greenbrier	Smilacaceae	perennial rhizomatous herb	May-Jul(Aug-Oct)	None	None	G3G4	S3S4	4.2	Yes	1980-01-01	 Sheli Wingo 2004
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1		1988-01-01	No Photo Available
Wolffia brasiliensis	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr-Dec	None	None	G5	S2	2B.3		2001-01-01	 © 2021 Scot Loring

Showing 1 to 30 of 30 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 23 October 2024].

Appendix C
Plant Species Observed During Biological Survey

TABLE C-1
PLANT SPECIES OBSERVED IN THE STUDY AREA

Family	Scientific Name	Common Name	Native or Non-Native	Cal-IPC Rating (if applicable)	CDFA Rating (if applicable)
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	Blue elderberry	Native	None	None
Amaranthaceae	*Alternanthera philoxeroides*	Alligator weed	Non-Native	High	A
Amaranthaceae	*Amaranthus blitoides*	Prostrate pigweed	Non-Native	None	None
Apiaceae	*Torilis arvensis*	Common hedge parsley	Non-Native	Moderate	None
Asteraceae	*Artemisia vulgaris*	Mugwort	Non-Native	None	None
Asteraceae	*Carduus pycnocephalus*	Italian thistle	Non-Native	Moderate	C
Asteraceae	*Centaurea solstitialis*	Yellow starthistle	Non-Native	High	-*
Asteraceae	*Erigeron bonariensis*	Flax-leaved horseweed	Non-Native	None	None
Asteraceae	*Erigeron canadensis*	Canada horseweed	Native	None	None
Asteraceae	*Heterotheca grandiflora*	Telegraph weed	Native	None	None
Asteraceae	*Solidago altissima*	Tall goldenrod	--	None	None
Asteraceae	*Sonchus asper*	Sow thistle	Non-Native	None	None
Asteraceae	*Xanthium strumarium*	Cocklebur	Native	None	None
Boriganaceae	*Amsinckia intermedia*	Common fiddleneck	Native	None	None
Brassicaceae	*Hirschfeldia incana*	Shortpod mustard	Non-Native	Moderate	None
Cupressaceae	*Sequoia sempervirens*	Coastal redwood	Native	None	None
Cyperaceae	*Cyperus eragrostis*	Tall flatsedge	Native	None	None
Equisetaceae	*Equisetum arvense*	Field horsetail	Native	None	None
Fabaceae	*Melilotus albus*	White sweetclover	Non-Native	None	None
Fabaceae	*Sesbania punicea*	Red sesbania	Non-Native	High	-*
Fagaceae	*Quercus lobata*	Valley oak	Native	None	None
Hypericaceae	*Hypericum perforatum*	St. John's wort	Non-Native	Limited	C
Juglandaceae	*Juglans californica*	Black walnut	Native	None	None
Juglandaceae	*Juglans regia*	English walnut	Non-Native	None	None
Juncaceae	*Juncus balticus*	Baltic rush	Native	None	None

Family	Scientific Name	Common Name	Native or Non-Native	Cal-IPC Rating (if applicable)	CDFA Rating (if applicable)
Juncaceae	*Juncus bufonius*	Toad rush	Native	None	None
Juncaceae	*Juncus effusus*	Common rush	Native	None	None
Lamiaceae	*Marrubium vulgare*	White horehound	Non-Native	Limited	None
Malvaceae	*Tilia* sp.	Lime	Non-Native	None	None
Malvaceae	*Malva parviflora*	Cheeseweed	Non-Native	None	None
Moraceae	*Morus alba*	White mulberry	Non-Native	None	None
Onagraceae	*Epilobium* sp.	Willowherb	--	None	None
Phylotaccaceae	*Phytolacca americana*	Pokeberry	Non-Native	Limited	None
Poaceae	*Arundo donax*	Giant reed	Non-Native	High	-*
Poaceae	*Avena barbata*	Slim oat	Non-Native	Moderate	None
Poaceae	*Bromus diandrus*	Ripgut brome	Non-Native	Moderate	None
Poaceae	*Bromus hordeaceus*	Soft chess	Non-Native	Limited	None
Poaceae	*Cynodon dactylon*	Bermuda grass	Non-Native	Moderate	None
Poaceae	*Hordeum brachyantherum*	Meadow barley	Native	None	None
Poaceae	*Hordeum murinum*	Foxtail barley	Non-Native	Moderate	None
Poaceae	*Sorghum halapense*	Johnsongrass	Non-Native	None	None
Poaceae	*Stipa miliacea* var. *miliacea*	Smilo-grass	Non-Native	Limited	None
Rosaceae	*Rosa californica*	California rose	Native	None	None
Rosacaea	*Rubus armeniacus*	Himalayan blackberry	Non-Native	High	None
Salicaceae	*Populus fremontii*	Fremont's cottonwood	Native	None	None
Salicaceae	*Salix exigua*	Narrowleaf willow	Native	None	None
Salicaceae	*Salix gooddingi*	Black willow	Native	None	None
Salicaceae	*Salix lasiolepis*	Arroyo willow	Native	None	None
Salicaceae	*Salix lasiandra*	Pacific willow	Native	None	None
Sapindaceae	*Acer negundo*	Box elder	Native	None	None
Scrophulariaceae	*Verbascum thapsus*	Common mullein	Non-Native	Limited	None
Simaroubaceae	*Ailanthus altissima*	Tree-of-heaven	Non-Native	Moderate	C*

Family	Scientific Name	Common Name	Native or Non-Native	Cal-IPC Rating (if applicable)	CDFA Rating (if applicable)
Solanaceae	*Nicotiana glauca*	Tree tobacco	Non-Native	Moderate	None
Solanaceae	*Solanum nigrum*	Common nightshade	Non-Native	None	None
Themidaceae	*Dichelostemma capitatus*	Blue dicks	Native	None	None
Verbenaceae	*Verbena litoralis*	Seashore vervain	Non-Native	None	None
Vitaceae	*Vitis californica*	California wild grape	Native	None	None
Zygophyllaceae	*Tribulus terrestris*	Puncture vine	Native	Limited	-*

NOTES: * Native or Non-native; -- = Unknown; Cal-IPC = California Invasive Plant Council; CCR = California Code of Regulations; CDFA = California Department of Food and Agriculture

Cal-IPC ratings

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
Alert – These species have High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further.
Watch – These species have been assessed as posing a high risk of becoming invasive in the future in California.

CDFA Ratings

A – A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment.
B – A pest of known economic or environmental detriment and, if present in California, it is of limited distribution.
C – A pest of known economic or environmental detriment and, if present in California, it is usually widespread.
D – An organism known to be of little or no economic or environmental detriment, to have an extremely low likelihood of weediness, or is known to be a parasite or predator.
Q – An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.
***** – This plant is included in the CCR Section 4500 list of California State Noxious Weeds.
-* – This plant is included in the CCR Section 4500 list of California State Noxious Weeds, but is otherwise not rated.

SOURCES: California Invasive Plant Council. 2024. California Invasive Plant Council Inventory of Invasive Plants and Watch Species. Berkely (CA). Viewed online at: https://www.cal-ipc.org/plants/inventory/. Accessed: December 28, 2024.

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Appendix D
Wildlife Species Observed During Biological Survey

TABLE D-1
WILDLIFE SPECIES OBSERVED IN THE STUDY AREA

Scientific Name	Common Name
Birds	
Aeronautes saxatalis	White-throated swift
Agelaius phoeniceus	Red-winged blackbird
Aphelocoma californica	California scrub-jay
Archilochus alexandri	Black-chined hummingbird
Ardea alba	Great egret
Ardea herodias	Great blue heron
Baeolophus inornatus	Oak titmouse
Buteo jamaicensis	Red-tailed hawk
Calypte anna	Anna's hummingbird
Cathartes aura	Turkey vulture
Charadrius vociferus	Killdeer
Colaptes auratus	Northern flicker
Dryobates nuttallii	Nuttall's woodpecker
Haemorhous mexicanus	House finch
Molothrus ater	Brown-headed cowbird
Myiarchrus cinerascens	Ash-throated flycatcher
Pandion haliaetus	Osprey
Passer domesticus	House sparrow
Passerina caerulea	Blue grosbeak
Petrochelidon pyrrhonota	Cliff swallow
Pipilo maculatus	Spotted towhee
Phalacrocorax auritus	Double-crested cormorant
Psaltriparus minimus	Bushtit
Regulus calendula	Ruby-crowned kinglet
Sayornis nigricans	Black phoebe
Setophaga coronata	Yellow-rumped warbler
Spinus psaltria	Lesser goldfinch
Spinus tristis	American goldfinch
Sturnus vulgaris	European starling
Tachycineta bicolor	Tree swallow
Turdus migratorius	American robin
Tyrannus verticalis	Western kingbird
Zenaida macroura	Mourning dove
Mammals	
Lontra canadensis	North American river otter

Scientific Name	Common Name
Reptiles	
Sceloporus occidentalis	Western fence lizard

Appendix E
Study Area Photographs

Representative Photographs

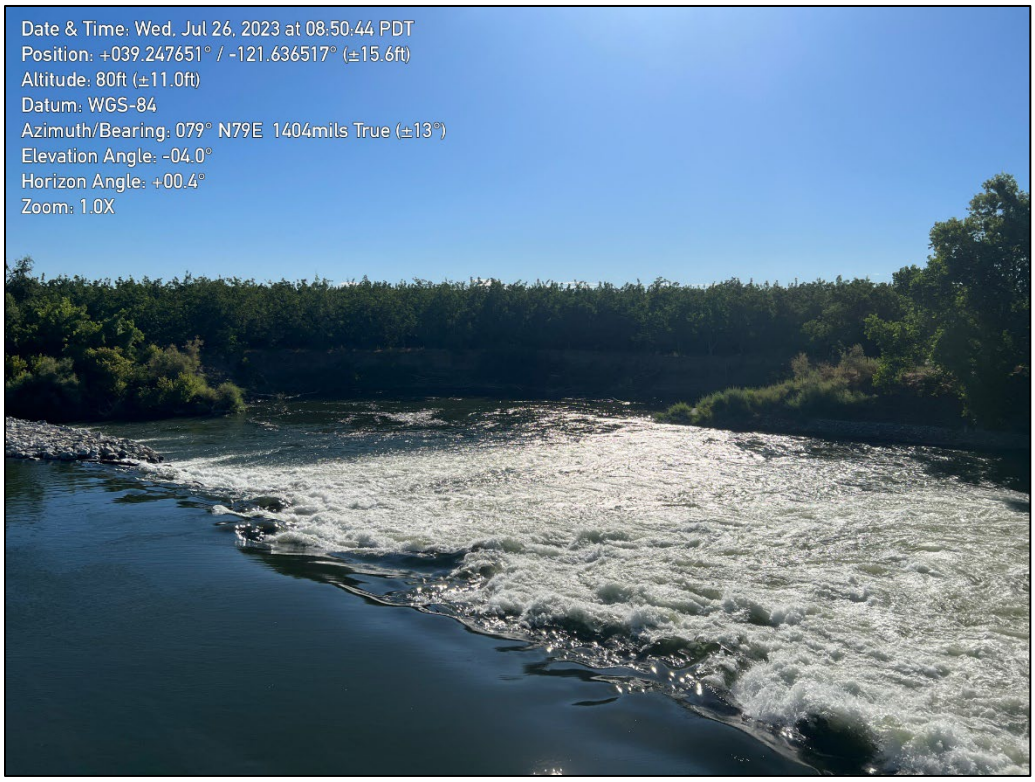


Photo 1. View of the Feather River at the Sunset Weir rock barrier.



Photo 2. View of the study area south of the Sunset Pump Station.



Photo 3. View of the riparian forest on the land side along the Feather River south of the pump station.



Photo 4. View of riparian forest along the Feather River at the edge of an agricultural property.



Photo 5. Agricultural pump that will require maintenance and/or improvements.



Photo 6. View of the scour pond area on the eastern bank of the Feather River and the walnut orchard.



Photo 7. Dirt access road bisecting the walnut orchard to the east and the edge of riparian forest adjacent to the Feather River to the west.



Photo 8. View of a proposed staging area on the agricultural property near the scour pond.



Photo 9. View of another proposed staging area in a barren dirt area within an agricultural property.



Photo 10. View of an elderberry shrub located along the edge of the orchard near the scour pond.

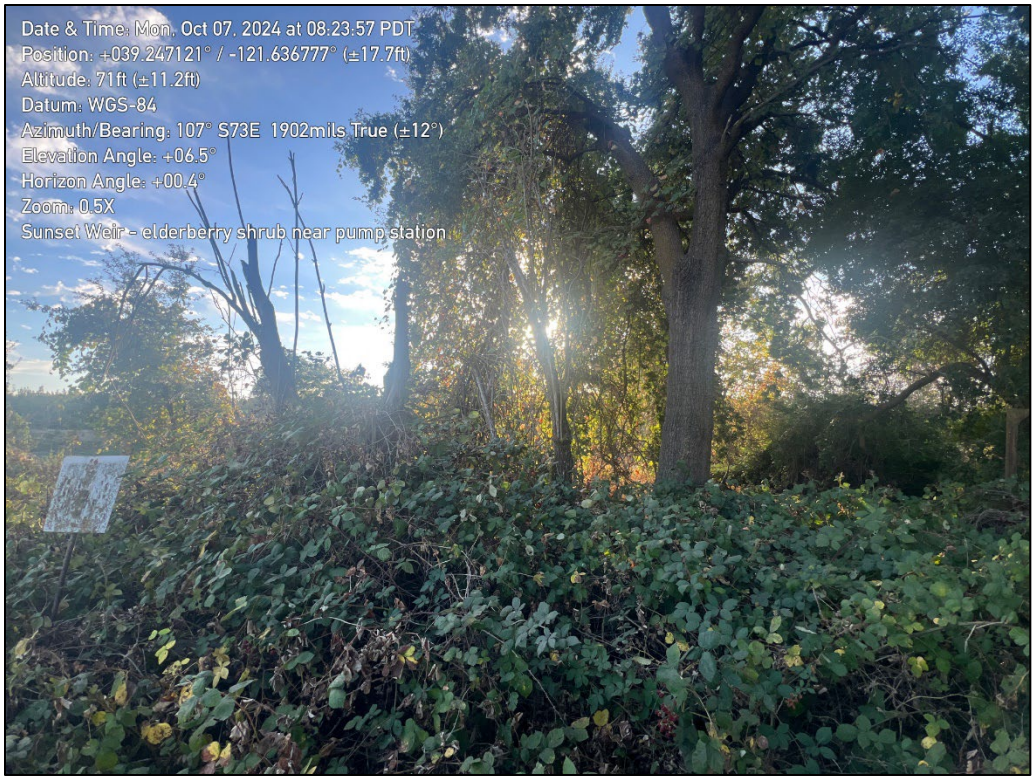


Photo 11. View of elderberry shrub located near the Sunset Pump Station.



Photo 12. View of an elderberry shrub within the riparian forest along the Feather River adjacent to an agricultural property.



Photograph 13. Potential staging area located south of the main study area and scour pond along the Feather River.



Photograph 14. View of designated off-site staging area located at 4501 Franklin Road in Yuba City.

Appendix F

Cultural Resources Inventory Report CONFIDENTIAL