

**Bellota Weir Modification Project  
Stockton, California**

**FINAL  
MITIGATED NEGATIVE DECLARATION**

**State Clearinghouse Number: 2022090262**

**October 2022**

**Lead Agency:**

Stockton East Water District



**Prepared by:**



**2525 Warren Drive  
Rocklin, CA 95677**

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**Bellota Weir Modification Project**  
**Final**  
**Mitigated Negative Declaration**  
**State Clearinghouse (SCH) Number: 2022090262**  
**October 2022**

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**FINAL MITIGATED NEGATIVE DECLARATION**  
**BELLOTA WEIR MODIFICATION PROJECT**

**Project Title:** Bellota Weir Modification Project (Project)

**Lead Agency:** Stockton East Water District

**Project Proponent:** Stockton East Water District

**Project Location:** On the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, approximately 17 miles downstream of the New Hogan Dam. The Project Area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast. The Project site includes 15.5 acres and is accessed from two existing gated entrances: one at 42340 State Route 26 (referred to as the north entrance) and one at 24645 East Shelton Road (referred to as the east entrance).

**Project Description:** The Stockton East Water District (SEWD or District) proposes the Bellota Weir Modifications Project. The Project is a continuation of the Calaveras River Anadromous Fish Protection Project. The Project includes removal of the existing weir and construction of several new elements intended to provide more reliable water delivery systems for SEWD customers, improve migration of both juvenile and adult fish, and reduce fish entrainment at the facilities, thereby enhancing populations of anadromous salmonids using the Calaveras River (CH2M 2003). The following Project actions will be taken to achieve these goals:

- Replace the existing profile control infrastructure
- Provide fish passage facility for fish species throughout various life stages at Project site
- Provide fish exclusion and protection measures for SEWD intake at Bellota Weir
- Exclude fish from migrating downstream into the Old Calaveras River
- Maintain existing flood conveyance

For Project details, see Draft IS/MND Chapter 2.0 Project Description (Appendix A).

**Finding:** Based on the information contained in the attached Initial Study, SEWD finds that there would not be a significant effect to the environment because the mitigation measures described herein would be incorporated as part of the Proposed Project.

This is to certify that the Final Initial Study/Mitigated Negative Declaration including comments and responses, the Mitigation Monitoring and Reporting Plan, and record of Project approval is available to the general public at: 6767 East Main Street, Stockton, California, 95215.

**Draft IS/MND Public Review Period:** September 16, 2022 – October 17, 2022

## ***Mitigation Measures Incorporated into the Project to Avoid Significant Effects***

### ***Biological Resources***

#### **BIO-1: Protect Water Quality and Minimize Sedimentation Runoff to Waters**

The Project will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan (if required), and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment into Waters. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The Project would require a Section 404 Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the CVRWQCB and/or a Lake or Streambed Alteration Agreement from the CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These permit conditions and BMPs shall also be implemented as part of the Project.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

#### **BIO-2 Install Fencing and/or Flagging to Protect Sensitive Biological Resources**

Prior to construction, the Project contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area where adjacent to Environmentally Sensitive Areas (e.g., adjacent riparian areas and any special-status species habitat and/or active bird nests that may be identified during pre-construction surveys). The SEWD will ensure that the final construction plans show the locations where fencing will be installed. The plans also shall define the fencing installation procedure. The SEWD or contractor (at the discretion of the SEWD) will ensure that fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The Project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Areas. All temporary fencing will be removed upon completion of construction.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*



**BIO-3 Conduct Environmental Awareness Training for Construction Personnel**

Before any work occurs within the Project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the Project will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of any permit, Biological Opinion or other authorizing document (e.g., letter of concurrence) that may be prepared for the Project. The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during Project construction.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-4 Conduct Section 7 Consultation with USFWS for Elderberry Long Horn Beetle (VELB) and Implement Required Mitigation**

The following shall be implemented through the standard Army Corps Section 404 permitting process to minimize potential impacts to VELB:

- If elderberry shrubs would be removed or if construction ground disturbance would occur within 165 feet of an elderberry shrub, an evaluation using the 2017 USFWS guidance entitled USFWS 2017 Framework for Assessing Impacts to the VELB (USFWS 2017) (Framework) shall be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.
- Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
- A preconstruction survey shall be conducted by a qualified biologist in all riverine/riparian habitat within 165 feet of Project disturbance areas before any construction activity. The surveys shall be conducted according to the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle.

If elderberry shrubs are located 165 feet or more from Project activities, direct or indirect impacts are not expected. Shrubs located in riparian areas and within 165 feet of ground-

disturbing activities shall be protected from indirect effects during construction by establishing and maintaining a high-visibility temporary construction fence.

If elderberry shrubs can be retained within the Project footprint, Project activities may occur in close proximity to the elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts. If feasible, an avoidance area shall be established at least 20 feet from the drip line of an elderberry shrub for any activities that may damage the elderberry shrub and the Project proponent shall implement avoidance and minimization measures specified in the USFWS Framework.

As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the valley elderberry longhorn beetle (March - July).

For elderberry shrubs that cannot be avoided according to the USFWS 2017 Framework, SEWD shall compensate for the loss of valley elderberry longhorn beetle habitat consistent with the Framework by purchasing appropriate credits at an agency approved mitigation bank, such as the French Camp Conservation Bank.

If trimming elderberry shrubs is proposed, trimming shall be conducted between November and February and shall not result in the removal of elderberry branches that are  $\geq$  one inch in diameter. If trimming results in removing branches that are  $\geq$  one inch in diameter, the Project proponent shall mitigate for the loss of the valley elderberry beetle habitat via the standard permit process consistent with the USFWS 2017 Framework.

The Project proponent shall comply with the ESA and consult with USFWS and will compensate for the unavoidable loss of elderberry shrubs according to USFWS 2017 Framework. The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank (as discussed above), providing onsite mitigation, or establishing and protecting habitat for valley elderberry longhorn beetle.

Because VELB is a SJCMSP covered species, substitute mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-5 Survey for Swainson's Hawk and Other Protected Raptor nests and Protect Nesting Activity**

For activities with potential to affect Swainson's hawk and other raptor nests, or remove Swainson's hawk foraging habitat, SEWD shall consult with CDFW with respect to the following measures proposed to mitigate for habitat removal and potential nest disturbance. As part of the consultation, SEWD may seek take authorization under Section 2081 of the Fish and Game Code. The following measures will be implemented and are intended to avoid, minimize, and fully mitigate impacts to Swainson's hawk, as well as other raptors:

- For construction activities that would occur within 0.25 mile of a known or likely Swainson's hawk nest site, SEWD shall attempt to initiate construction activities before the nest initiation phase (i.e., before March 1). Depending on the timing, regularity, and intensity of construction activity, construction in the area before nest initiation may discourage a Swainson's hawk pair from using that site and eliminate the need to implement further nest-protection measures, such as buffers and limited construction operating periods around active nests. Other measures that could be used to deter establishment of nests (e.g., reflective striping or decoys) may be used before the breeding season in areas planned for active construction. However, deployment of nest deterrents does not guarantee success. If breeding raptors establish an active nest site, as evidenced by nest building, egg laying, incubation, or other nesting behavior, near the construction area, they shall not be harassed or deterred from continuing with their normal breeding activities.
- For Project activities, including tree removal, that begin between March 1 and September 15, qualified biologists shall conduct preconstruction surveys for Swainson's hawk and other nesting raptors and to identify active nests on and within 0.5 mile of the project site. The surveys shall be conducted before the beginning of any construction activities between March 1 and September 15, following the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000).
- Impacts to nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson's hawk and 500 feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and SEWD, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.

- Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.

Because Swainson's hawk is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

#### **BIO-6 Survey for Tricolored Blackbird and Protect Nesting Activity**

The following measures shall be implemented to avoid or minimize loss of active tricolored blackbird nests:

- To minimize the potential for loss of tricolored blackbird nesting colonies and other nesting birds in the project site, vegetation removal activities shall commence during the nonbreeding season (September 1-January 31) to the extent feasible. If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.

Before removal of any vegetation within potential nesting habitat between February 1 and August 31, a qualified biologist shall conduct preconstruction surveys for nesting tricolored blackbirds (colonies). The surveys shall include all onsite suitable nesting habitat and all suitable nesting habitat located within 100 feet of the construction disturbance boundary and shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the Project design to avoid removal of occupied habitat while still achieving Project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with Project objectives, construction shall be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest colony is no longer active. These recommended buffer areas may be reduced or expanded through consultation with CDFW. Monitoring of all occupied nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.

Because Tricolored blackbird is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-7 Conduct Fish Rescue and Relocation**

Prior to initiation of construction, a fish exclusion, rescue, and relocation plan shall be prepared and approved by NMFS and CDFW and implemented during construction. The plan shall identify the methods, equipment, fish protection measures, and release location(s) for all fish collected during dewatering of the site. The fish rescue and relocation effort shall be conducted by qualified fisheries biologists during the dewatering process to minimize the potential injury or death of juvenile steelhead, or other fish and aquatic species potentially stranded in isolated pools during dewatering of the project site.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-8 Conduct Section 7 and Magnuson-Stevens Act Consultation with NMFS for CCV DPS Steelhead and Essential Fish Habitat for Pacific salmon and Implement Required Mitigation**

Prior to initiation of construction, the Project shall undergo ESA and MSA consultation with NMFS through the Corps Section 404 permitting process and shall comply with all terms and conditions of the consultation. Conservation measures to reduce the likelihood of take of CCV DPS steelhead, designated critical habitat for CCV DPS steelhead, and Essential Fish Habitat for Chinook salmon may include, but are not limited to:

- If feasible, conduct all in-channel work during the mid-June to late October in-water work window.
- Conduct worker environmental awareness training.
- Conduct fish exclusion, rescue, and relocation efforts during dewatering activities.
- All dewatering pumps and the intake to the diversion pipe shall be fitted with fish screens meeting NMFS fish screen criteria.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-9: Obtain a CDFW Routine Maintenance Agreement and Implement Required Conditions**

Prior to operational maintenance activities with potential to impact fish and wildlife, SEWD shall consult with CDFW and if required obtain an RMA for the Project. The RMA shall address all anticipated maintenance activities and shall identify appropriate implementation timing and related best management practices to minimize impacts to fish and wildlife resources. The RMA shall be developed consistent with conditions contained in the Project's USFWS and NMFS Biological Opinions and shall identify criteria for when a maintenance activity triggers consultation with the Federal resource agencies.

*Timing/Implementation: Prior to operational maintenance*

*Monitoring/Enforcement: SEWD*

**BIO-10      Compensate for the Permanent Loss of Waters of the United States/Waters of the State and Restore Temporary Disturbed Areas**

Impacts to Waters of the U.S. are expected to be offset by the Project's environmental benefits, therefore the Project would qualify for an USACE NWP27 and compensatory mitigation for impacts to wetlands and waters would not be required.

Authorization to fill Waters of the U.S. under the Section 404 and 401 of the federal CWA (Section 404 Permit and Section 401 Water Quality Certification) shall be obtained from USACE and CVRWQCB prior to discharging any dredged or fill materials into any Waters of the U.S. Since the Waters of the U.S. are likely also Waters of the State, the 401 Water Quality Certification will authorize fill to Waters of the State. Specific impact avoidance, minimization, and/or compensation measures shall be developed and implemented as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit and an application for a 401 Water Quality Certification for the Project shall be prepared and submitted to USACE and CVRWQCB. Mitigation for impacts to Waters of the U.S., if needed, shall be established through the Section 404 permit process.

If the Project does not qualify for a NWP27, compensation for permanent impacts to a maximum of 2.05± acres of Waters could be accomplished by:

- Purchase of mitigation credits to achieve no net loss at an USACE-approved mitigation bank; and/or
- Permittee-responsible mitigation (e.g., preservation and creation) to achieve no net loss at an on or offsite mitigation property.

*Timing/Implementation:      Prior to and following construction*

*Monitoring/Enforcement:      SEWD/Consultant*

**Cultural Resources**

**CUL-1:      Monitoring at P-39-4531**

All ground-disturbing activities within 15 meters (50 feet) of the intact portion of P-39-4531 shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist. The portions of the resource along the floor of Mormon Slough are not intact and therefore do not require archaeological monitoring.

**CUL-2: Contractor Awareness Training**

An archaeological sensitivity training program shall be developed and implemented during a pre-construction meeting for construction supervisors. The contractor awareness training shall be conducted and/or supervised by a professional archaeologist meeting the standards specified above. The training shall be conducted prior to any ground disturbing activities within the property. The program will provide information about notification procedures when potential archaeological material is discovered, procedures for coordination between construction personnel and monitoring personnel, and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during project construction. This protocol shall be communicated by a video on a DVD to all new construction personnel during orientation, and on a poster that is placed in a visible location inside the construction job trailer.

**CUL-3: Stop Work if Cultural Resources or Human Remains are Detected**

If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor required by mitigation measure CUL-1, all work must halt within 20 feet of the discovery. The monitor shall notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SEWD, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures shall be implemented. Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time

access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the SEWD must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.

### ***Geology and Soils***

#### **GEO-1: Discovery of Unknown Paleontological Resources**

- Prior to any earth-disturbing activities, a professional paleontologist will provide the construction crew with a brief orientation to the fossils that' could be unearthed and the appropriate action that should be taken should that occur. During that visit to the site, and prior to orientation session, the paleontologist will also perform a paleontological walkover survey.
- If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be diverted at least 15 feet away from the discovery and the area shall be isolated using orange or yellow fencing until SEWD is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project site. If SEWD resumes work in a location where paleontological remains have been discovered and cleared, SEWD shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

### ***Hazards and Hazardous Materials***

#### **HAZ-1: Asbestos Removal Compliance**

The Proposed Project shall comply with all federal, state, and local regulations concerning asbestos. Prior to structure demolition and consistent with the Project specifications, an asbestos removal contractor registered by the contractor's state license board shall conduct removal of all suspected asbestos containing materials. During demolition, water support shall be used to prevent the release of visible air emissions.



### ***Tribal Cultural Resources***

**TCR-1: Monitor Ground Disturbance to Avoid and Minimize Impacts to Previously Unknown TCRs**

All vegetation removal, soil excavation, and any activity that has the potential to disturb more than six inches of original ground should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 48 hours' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas that were already monitored. Excavated sediment from the river channel will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with the unanticipated discovery measures in the Cultural Section.

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## **1.0 INTRODUCTION**

This document is the Final Mitigated Negative Declaration (Final MND) and the Mitigation Monitoring and Reporting Plan (MMRP) for the Bellota Weir Modification Project. It has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resource Code [PRC] Section 21000 et. seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.) as amended. This Final MND and Responses to Comments document supplements and updates the Draft Mitigated Negative Declaration (See Appendix A for the Draft MND).

The Stockton East Water District (SEWD) is the Lead Agency for the Proposed Project. On September 16, 2022, the Lead Agency distributed the Draft MND for the Project to public agencies and the general public for review and comment, as indicated in the Notice of Intent to Adopt a Mitigated Negative Declaration (See Appendix B for the NOI). In accordance with the State CEQA Guidelines, a 30-day review period, which ended on October 17, 2022, was completed. During the public review period, one comment letter and/or email on the Draft MND was received from interested parties.

This Final MND and Responses to Comments document is organized as follows:

- Section 1.0 provides a discussion of the purpose and structure of the document;
- Section 2.0 contains a summary of the Project Description;
- Section 3.0 includes the comment letter received and responses;
- Section 4.0 includes the Proposed Project's Mitigation Monitoring and Reporting Program (MMRP), prepared pursuant to PRC Section 21081.6; and,
- Section 5.0 includes the Final MND Appendices, including the Draft MND (Appendix A) and Notice of Intent (Appendix B).

This Final MND document and the Draft MND together constitute the environmental document for the Proposed Project. No revisions were required to the Draft MND text as a result of comments received on the Draft MND. Thus, there were no substantial revisions that would require recirculation of the document. A substantial revision according to Section 15073.5 of the *2020 CEQA Statute Guidelines* shall mean:

- “(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or
- (2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.”

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## **2.0 PROJECT OVERVIEW**

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### **2.1 Project Location**

The Project is located on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, approximately 17 miles downstream of the New Hogan Dam. The Project Area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast. The Project site includes 15.5 acres and is accessed from two existing gated entrances: one at 42340 State Route 26 (referred to as the north entrance) and one at 24645 East Shelton Road (referred to as the east entrance).

### **2.2 Project Description**

The Project is proposed by the Stockton East Water District (SEWD or District) and is a continuation of the Calaveras River Anadromous Fish Protection Project. The Project includes removal of the existing weir and construction of several new elements intended to provide more reliable water delivery systems for SEWD customers, improve migration of both juvenile and adult fish, and reduce fish entrainment at the facilities, thereby enhancing populations of anadromous salmonids using the Calaveras River (CH2M 2003). The following Project actions will be taken to achieve these goals:

- Replace the existing profile control infrastructure
- Provide fish passage facility for fish species throughout various life stages at Project site
- Provide fish exclusion and protection measures for SEWD intake at Bellota Weir
- Exclude fish from migrating downstream into the Old Calaveras River
- Maintain existing flood conveyance

For Project details, refer to Draft IS/MND Chapter 2.0 Project Description (Appendix A).

### **2.3 Decision Not to Recirculate Draft MND**

According to the State CEQA Guidelines, "A lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has been given pursuant to Section 15072 but prior to its adoption." As discussed in Chapter 3 of this Final MND, a single comment letter on the Draft IS/MND was received from the Central Valley Regional Water Quality Control Board (CVRWQCB). Issues raised in this comment letter did not require revision to the Draft IS/MND. Thus, the criteria for recirculation of the MND prior to adoption as outlined in Section 15073.5 of the State CEQA Guidelines has not been met and recirculation is not required.

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## **3.0 COMMENTS AND RESPONSES**

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### **3.1 Introduction**

This section of the document contains copies of comment letters received during the 30-day public review period, which began on September 16, 2022, and ended on October 17, 2022. Comments and responses to comments are not required to be included in MNDs but are included here for informational purposes for the public and decision-makers on the Project.

This section contains the following:

- A list of commenters on the Draft MND which lists public agencies, organizations and individuals who submitted comments during the public comment period; and
- A response to all comments received on the Draft MND, which includes copies of all letters and emails received during the public comment period.

In conformance with Section 15088(a) of the State CEQA Guidelines, the SEWD has considered comments on environmental issues from reviewers of the Draft MND and has prepared written responses. A total of one letter was received, commenting on the Draft MND. This letter, and the responses to the comments contained in the letter, are provided in this section.

### **3.2 List of Commenters**

Agencies, individuals, and organizations who commented on the Draft MND are listed below. Each comment letter is included below and assigned a code (e.g., L1, L2, L3). Each comment within each letter is further assigned a code for tracking individual responses to comments (e.g., L1.1, L1.2, L2.1, L2.2).

### **3.3 Responsible and Interested Agencies**

- Central Valley Regional Water Quality Control Board.

### **3.4 Individuals and Organizations**

- None.

### **3.5 Responses to Comments**

The following section includes comment letters received during the public comment period on the Draft MND, followed by a written response to each comment. The comments and responses are correlated by code numbers shown in the right margin of each comment letter.

**3.6 List of Comment Letters**

<b>Letter Number</b>	<b>Sender</b>	<b>Date Received</b>
L1	Central Valley Regional Water Quality Control Board	October 17, 2022



**Letter 1. Central Valley Regional Water Quality Control Board – Peter Minkel, received October 17, 2022.**



Central Valley Regional Water Quality Control Board

17 October 2022

Darrel Evensen  
Stockton East Water District  
6767 East Main Street  
Stockton, CA 95215  
devensen@sewd.net

**COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, BELLOTA WEIR MODIFICATION PROJECT, SCH#2022090262, SAN JOAQUIN COUNTY**

Pursuant to the State Clearinghouse's 15 September 2022 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Bellota Weir Modification Project, located in San Joaquin County.

L1.1

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.

L1.2

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

MARK BRADFORD, CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

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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/](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\\_2018\\_05.pdf](https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_2018_05.pdf)

L1.2

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](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml)

L1.3

**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/](https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/)

L1.3

**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/](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](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](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](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](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/>

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17 October 2022

If you have questions regarding these comments, please contact me at (916) 464-4684  
or Peter.Minkel2@waterboards.ca.gov.

*Peter Minkel*

Peter Minkel  
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research,  
Sacramento

## **Letter 1 Responses to Comments**

### **Response to Comment L1.1:**

**Comment L1.1:** This comment is an introductory paragraph indicating the CVRWQCB is delegated responsibility for protecting the quality of surface and groundwaters of the state and that their comments address concerns surrounding these issues.

**Response:** Comment L1.1 does not address the adequacy of the Draft IS/MND. No further response is necessary.

**Comment L1.2:** Comment L1.2 states it's the CVRWQCB's responsibility to prepare and adopt Basin Plans for all areas of the Central Valley region in accordance with the Porter-Cologne Water Quality Control Act. The comment further discusses the required contents of those plans and the procedural requirements for periodic plan review and amendment.

**Response:** The Draft IS/MND recognizes the applicability of the Porter-Cologne Act to proposed Project. Please refer to Draft IS/MND Section 4.10.2.2. The information presented in the comment concerning the Act's requirement for Basin Plan preparation is hereby noted and forwarded to this Project's Lead Agency for consideration.

**Comment L1.3:** This comment lists several CVRWQCB permitting requirements that may be applicable to the Project.

**Response:** The Project will comply with all applicable CVRWQCB regulations and obtain all required permits listed as discussed below.

Construction Stormwater General Permit: The need for this permit is addressed in Draft IS/MND section 4.10.3. The analysis concludes the Project is subject to Federal NPDES and a Statewide National Pollutant Discharge Elimination System Storm Water Permit for General Construction Activity and that conditions of these permits would reduce potential construction water quality impacts to less than significant levels.

Phase 1 and 2 Municipal Separate Storm Water System (MS4) Permits: The proposed Project includes a private onsite stormwater system. Because the Project does not require connection to any municipal storm drainage or sewer system, an MS4 permit is not required for the Project.

Clean Water Act Section 404 Permit: The applicability of this permit is discussed in Draft IS/MND Project Description Section 2.17 Regulatory Requirements, Permits and Approvals; Section 4.4.2.3 Aquatic Resources; Section 4.4.3.6 Construction; and Mitigation Measure BIO-10.

As discussed in Section 4.4.3.6, the Project is expected to require a 404 permit. Further, the Project is expected to result in net increases in aquatic resource functions and values in Mormon Slough and the Old Calaveras River and appears to meet the criteria for authorization under USACE Nationwide Permit No. 27 Aquatic Habitat Restoration. Implementation of Mitigation Measure BIO-10 would ensure the overall Project benefits to aquatic functions and values are considered when determining compensatory mitigation requirements. As such, compensatory mitigation for impacts to 2.05± acres of Waters of the U.S. in Mormon Slough and the Old Calaveras River may be satisfied by the Project as proposed and

additional mitigation may not be required. The final determination regarding the need for compensatory mitigation will be determined via the permit process as discussed in Mitigation Measure BIO-10.

This comment also recommends that the project applicant contact the California Department of Fish and Wildlife for information on Streambed Alteration Permit requirements. In response to this comment, the reader is referred to Draft IS/MND Section 2.1.7 Regulatory Requirements, Permits and Approvals; Section 4.4.3.4 Construction; and Mitigation Measure BIO-1. As discussed in these sections, a California Department of Fish and Wildlife Section 1602 Streambed Alteration Agreement is also expected to be required for the Project.

Clean Water Act Section 401 Permit – Water Quality Certification: The applicability of this permit is discussed in Draft IS/MND Section 4.4.3.6 Construction, and in Mitigation Measure BIO-10.

As discussed in Mitigation Measure BIO-10, authorization (permits) to fill Waters of the U.S. under the Section 404 and 401 of the federal CWA shall be obtained from the USACE (Section 404 Permit) and CVRWQCB (Section 401 Permit) prior to discharging any dredged or fill materials into any waters. Since Waters of the U.S. are also likely Waters of the State, the Project is expected to require a Section 401 Water Quality Certification Permit to authorize fill to Waters of the State.

Waste Discharge Requirements – Discharges to Waters of the State: The applicability of Waste Discharge Requirements is discussed in Draft IS/MND Section 4.10.2.2, and in response to Section 4.10.3 Hydrology and Water Quality checklist question a). As discussed in these sections, given applicable SWPPP and construction phasing and sequencing requirements, the Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Thus, the Project would not require Waste Discharge Requirements issued by the CVRWQCB.

Dewatering Permit: As discussed in Draft IS/MND Section 2.13 Pile and Sheet Pile Foundation Support, and in Section 2.14 Project Construction, the Project includes dewatering using sheet piles to protect surface water quality during certain construction phases and tasks. Thus, the Project will require coverage under either the State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver or Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Based on consultation with CVRWQCB staff, if required, SEWD will obtain appropriate Project coverage via either the Low Threat General Order or the Low Threat Waiver.

Limited Threat General NPDES Permit: As indicated in this comment, if Project dewatering requires discharge of groundwater to waters of the United States, the Project will require coverage under a National Pollutant Discharge Elimination System (NPDES) Permit. According to this comment, 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). Should this be the case, a complete Notice of Intent would be submitted by SEWD to the Central Valley Water Board to obtain Project coverage under the limited Threat General order.

NPDES Permit: The applicability of this permit is discussed in Draft IS/MND Section 4.10.2.1, 4.10.2.2. and in Section 4.10.3 Hydrology and Water Quality Checklist Question a). As discussed in these sections, the Project would obtain a NPDES Permit from the CVRWQCB.

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## **4.0 MITIGATION MONITORING AND REPORTING PLAN**

### **4.1 Introduction**

In accordance with CEQA, an MND that identifies adverse impacts related to the construction and operation of the proposed Project was prepared. The MND identifies mitigation measures that would reduce or eliminate these impacts.

Section 21081.6 of the PRC and Sections 15091(d) and 15097 of the State CEQA Guidelines require public agencies to adopt a reporting and monitoring program for 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. An MMRP is required for the Project because the MND identified potentially significant adverse impacts related to construction and operation of the Project, and mitigation measures have been identified to mitigate these impacts. Adoption of the MMRP will occur along with approval of the Project.

### **4.2 Purpose of the Mitigation Monitoring and Reporting Plan**

This MMRP has been prepared to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the Project, as required. The MMRP may be modified by the SEWD during Project implementation, as necessary, in response to changing conditions or other Project refinements. Table 4-1 has been prepared to assist the responsible parties with implementing the MMRP. The table identifies the individual mitigation measures, implementation actions and timing, implementation responsibility, responsibility for oversight of Compliance/Verification (including a notation space to confirm implementation), agency coordination, and comments. The numbering of the mitigation measures follows the numbering sequence in the MND.

### **4.3 Roles and Responsibilities**

The SEWD and the Project construction contractor are responsible for oversight of compliance of the mitigation measures in the MMRP.

### **4.4 Mitigation Monitoring and Reporting Plan**

The column categories identified in Table 4-1 are described below.

- **Mitigation Measure** – This column lists the mitigation measures by number.
- **Implementation Actions and Timing** - This column summarizes the mitigation activities and reports/deliverables that must be prepared to implement and comply with the required mitigation measure. These actions/reports are described in more detail in the mitigation measure text. This column also lists the timing of each activity, and the frequency/schedule of monitoring for each activity.

- **Implementation Responsibility**– This column provides the entities responsible for complying with the requirements of the mitigation measure, agencies responsible for oversight of the mitigation implementation, and any outside agencies that SEWD may need to coordinate with to ensure proper mitigation measure implementation.
- **Responsibility for Oversight of Compliance/Verification.** This column provides the entities responsible for verifying implementation compliance.
- **Agency Coordination.** This column lists agency coordination that may be required to ensure a coordinating agency’s regulatory interests are satisfied during mitigation measure implementation.
- **Comments.** This column provides comments to facilitate MMRP implementation.

**Table 4-1. Bellota Weir Modification Project**

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<b>Biological Resources</b>					
<p><b>BIO-1: Protect Water Quality and Minimize Sedimentation Runoff to Waters</b></p> <p>The Project will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan (if required), and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment into Waters. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.</p> <p>The Project would require a Section 404 Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the CVRWQCB and/or a Lake or Streambed Alteration Agreement from the CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These</p>	<p><b>Action:</b></p> <p>Implement BMPs to protect water quality</p> <p><b>Timing:</b></p> <p>Prior to and during construction.</p>	<p>SEWD/Consultant</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>USACE, CVRWQCB, CDFW</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>permit conditions and BMPs shall also be implemented as part of the Project.</p>					
<p><b>BIO-2 Install Fencing and/or Flagging to Protect Sensitive Biological Resources</b></p> <p>Prior to construction, the Project contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area where adjacent to Environmentally Sensitive Areas (e.g., adjacent riparian areas and any special-status species habitat and/or active bird nests that may be identified during per-construction surveys). The SEWD will ensure that the final construction plans show the locations where fencing will be installed. The plans also shall define the fencing installation procedure. The SEWD or contractor (at the discretion of the SEWD) will ensure that fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The Project’s special provisions package will provide clear language regarding acceptable fencing material and prohibited</p>	<p><b>Action:</b></p> <p>Demarcate buffer around identified environmentally sensitive areas as avoidance zones.</p> <p><b>Timing:</b></p> <p>Prior to the start of construction.</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>USFWS, CDFW</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Areas. All temporary fencing will be removed upon completion of construction.</p>					
<p><b>BIO-3 Conduct Environmental Awareness Training for Construction Personnel</b></p> <p>Before any work occurs within the Project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the Project will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will</p>	<p><b>Action:</b></p> <p>Provide contractor/worker environmental awareness training</p> <p><b>Timing:</b></p> <p>Prior to construction</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>		

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of any permit, Biological Opinion or other authorizing document (e.g., letter of concurrence) that may be prepared for the Project. The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during Project construction.</p>					
<p><b>BIO-4 Conduct Section 7 Consultation with USFWS for Elderberry Long Horn Beetle (VELB) and Implement Required Mitigation</b></p> <p>The following shall be implemented through the standard Army Corps Section 404 permitting process to minimize potential impacts to VELB:</p> <ul style="list-style-type: none"> <li>If elderberry shrubs would be removed or if construction ground disturbance would occur within 165 feet of an elderberry shrub, an evaluation using</li> </ul>	<p><b>Action:</b></p> <p>Conduct Section 7 Consultation and obtain a Biological Opinion</p> <p><b>Timing:</b></p> <p>Prior to construction</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>USFWS</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>the 2017 USFWS guidance entitled USFWS 2017 Framework for Assessing Impacts to the VELB (USFWS 2017) (Framework) shall be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.</p> <ul style="list-style-type: none"> <li>• Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.</li> <li>• A preconstruction survey shall be conducted by a qualified biologist in all riverine/riparian habitat within 165 feet of Project disturbance areas before any construction activity. The surveys shall be conducted according to the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle.</li> </ul> <p>If elderberry shrubs are located 165 feet or more from Project activities, direct or indirect impacts are not expected. Shrubs located in riparian areas and within 165 feet of ground-disturbing activities shall be protected from indirect effects</p>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>during construction by establishing and maintaining a high-visibility temporary construction fence.</p> <p>If elderberry shrubs can be retained within the Project footprint, Project activities may occur in close proximity to the elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts. If feasible, an avoidance area shall be established at least 20 feet from the drip line of an elderberry shrub for any activities that may damage the elderberry shrub and the Project proponent shall implement avoidance and minimization measures specified in the USFWS Framework.</p> <p>As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the valley elderberry longhorn beetle (March - July).</p> <p>For elderberry shrubs that cannot be avoided according to the USFWS 2017 Framework, SEWD shall compensate for the loss of valley elderberry longhorn beetle habitat consistent with the Framework by purchasing appropriate credits at</p>					



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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>an agency approved mitigation bank, such as the French Camp Conservation Bank.</p> <p>If trimming elderberry shrubs is proposed, trimming shall be conducted between November and February and shall not result in the removal of elderberry branches that are <math>\geq</math> one inch in diameter. If trimming results in removing branches that are <math>\geq</math> one inch in diameter, the Project proponent shall mitigate for the loss of the valley elderberry beetle habitat via the standard permit process consistent with the USFWS 2017 Framework.</p> <p>The Project proponent shall comply with the ESA and consult with USFWS and will compensate for the unavoidable loss of elderberry shrubs according to USFWS 2017 Framework. The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank (as discussed above),</p>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>providing onsite mitigation, or establishing and protecting habitat for valley elderberry longhorn beetle.</p> <p>Because VELB is a SJCMSP covered species, substitute mitigation for this species could also be accomplished via the SJCMSP.</p>					
<p><b>BIO-5 Survey for Swainson’s Hawk and Other Protected Raptor nests and Protect Nesting Activity</b></p> <p>For activities with potential to affect Swainson’s hawk and other raptor nests, or remove Swainson’s hawk foraging habitat, SEWD shall consult with CDFW with respect to the following measures proposed to mitigate for habitat removal and potential nest disturbance. As part of the consultation, SEWD may seek take authorization under Section 2081 of the Fish and Game Code. The following measures will be implemented and are intended to avoid, minimize, and fully mitigate impacts to Swainson’s hawk, as well as other raptors:</p> <ul style="list-style-type: none"> <li>For construction activities that would occur within 0.25 mile of a known or likely Swainson’s hawk nest site, SEWD</li> </ul>	<p><b>Action:</b></p> <p>Conduct pre-construction raptor nesting surveys and protect nesting</p> <p><b>Timing:</b></p> <p>Prior to construction</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>CDFW</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>shall attempt to initiate construction activities before the nest initiation phase (i.e., before March 1). Depending on the timing, regularity, and intensity of construction activity, construction in the area before nest initiation may discourage a Swainson’s hawk pair from using that site and eliminate the need to implement further nest-protection measures, such as buffers and limited construction operating periods around active nests. Other measures that could be used to deter establishment of nests (e.g., reflective striping or decoys) may be used before the breeding season in areas planned for active construction. However, deployment of nest deterrents does not guarantee success. If breeding raptors establish an active nest site, as evidenced by nest building, egg laying, incubation, or other nesting behavior, near the construction area, they shall not be harassed or deterred from continuing with their normal breeding activities.</p> <ul style="list-style-type: none"> <li>• For Project activities, including tree removal, that begin between March 1</li> </ul>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>and September 15, qualified biologists shall conduct preconstruction surveys for Swainson’s hawk and other nesting raptors and to identify active nests on and within 0.5 mile of the project site. The surveys shall be conducted before the beginning of any construction activities between March 1 and September 15, following the Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000).</p> <ul style="list-style-type: none"> <li>Impacts to nesting Swainson’s hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson’s</li> </ul>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>hawk and 500 feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and SEWD, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.</p> <ul style="list-style-type: none"> <li>• Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.</li> </ul> <p>Because Swainson’s hawk is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.</p>					
<p><b>BIO-6 Survey for Tricolored Blackbird and Protect Nesting Activity</b></p> <p>The following measures shall be implemented to avoid or minimize loss of active tricolored blackbird nests:</p>	<p><b>Action:</b></p> <p>Conduct pre-construction surveys for Tricolored Blackbird and protect nesting</p>	<p>Project Biologist</p> <p>_____</p> <p>Initials</p> <p>_____</p> <p>Date</p>	<p>SEWD</p> <p>_____</p> <p>Initials</p> <p>_____</p> <p>Date</p>	<p>CDFW</p>	

Bellota Weir Modification Project  
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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<ul style="list-style-type: none"> <li>To minimize the potential for loss of tricolored blackbird nesting colonies and other nesting birds in the project site, vegetation removal activities shall commence during the nonbreeding season (September 1-January 31) to the extent feasible. If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.</li> </ul> <p>Before removal of any vegetation within potential nesting habitat between February 1 and August 31, a qualified biologist shall conduct preconstruction surveys for nesting tricolored blackbirds (colonies). The surveys shall include all onsite suitable nesting habitat and all suitable nesting habitat located within 100 feet of the construction disturbance boundary and shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the Project design to avoid</p>	<p><b>Timing:</b> Prior to construction</p>				

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>removal of occupied habitat while still achieving Project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with Project objectives, construction shall be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest colony is no longer active. These recommended buffer areas may be reduced or expanded through consultation with CDFW. Monitoring of all occupied nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.</p> <p>Because Tricolored blackbird is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.</p>					
<p><b>BIO-7 Conduct Fish Rescue and Relocation</b></p> <p>Prior to initiation of construction, a fish exclusion, rescue, and relocation plan shall be prepared and approved by NMFS and CDFW and implemented during construction. The plan shall identify the methods, equipment, fish protection</p>	<p><b>Action:</b></p> <p>Prepare and implement a fish exclusion, rescue, and relocation plan</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>NMFS, CDFW</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>measures, and release location(s) for all fish collected during dewatering of the site. The fish rescue and relocation effort shall be conducted by qualified fisheries biologists during the dewatering process to minimize the potential injury or death of juvenile steelhead, or other fish and aquatic species potentially stranded in isolated pools during dewatering of the project site.</p>	<p><b>Timing:</b> Prior to and during construction</p>				
<p><b>BIO-8 Conduct Section 7 and Magnuson-Stevens Act Consultation with NMFS for CCV DPS Steelhead and Essential Fish Habitat for Pacific salmon and Implement Required Mitigation</b></p> <p>Prior to initiation of construction, the Project shall undergo ESA and MSA consultation with NMFS through the Corps Section 404 permitting process and shall comply with all terms and conditions of the consultation. Conservation measures to reduce the likelihood of take of CCV DPS steelhead, designated critical habitat for CCV DPS steelhead, and Essential Fish Habitat for</p>	<p><b>Action:</b> Conduct Section 7 and Magnuson-Stevens Act Consultation, obtain a NMFS Biological Opinion, and implement conditions</p> <p><b>Timing:</b> Prior to construction</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>NMFS</p>	



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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>Chinook salmon may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• If feasible, conduct all in-channel work during the mid-June to late October in-water work window.</li> <li>• Conduct worker environmental awareness training.</li> <li>• Conduct fish exclusion, rescue, and relocation efforts during dewatering activities.</li> <li>• All dewatering pumps and the intake to the diversion pipe shall be fitted with fish screens meeting NMFS fish screen criteria.</li> </ul>					
<p><b>BIO-9: Obtain a CDFW Routine Maintenance Agreement and Implement Required Conditions</b></p> <p>Prior to operational maintenance activities with potential to impact fish and wildlife, SEWD shall consult with CDFW and if required obtain an RMA for the Project. The RMA shall address all anticipated maintenance activities and shall identify appropriate implementation timing and related best management practices to minimize</p>	<p><b>Action:</b></p> <p>Obtain a CDFW Routine Maintenance Agreement and implement conditions</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>CDFW</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>impacts to fish and wildlife resources. The RMA shall be developed consistent with conditions contained in the Project’s USFWS and NMFS Biological Opinions and shall identify criteria for when a maintenance activity triggers consultation with the Federal resource agencies.</p>	<p><b>Timing:</b> Prior to operational maintenance</p>				
<p><b>BIO-10 Compensate for the Permanent Loss of Waters of the United States/Waters of the State and Restore Temporary Disturbed Areas</b></p> <p>Impacts to Waters of the U.S. are expected to be offset by the Project’s environmental benefits, therefore the Project would qualify for an USACE NWP27 and compensatory mitigation for impacts to wetlands and waters would not be required.</p> <p>Authorization to fill Waters of the U.S. under the Section 404 and 401 of the federal CWA (Section 404 Permit and Section 401 Water Quality Certification) shall be obtained from USACE and CVRWQCB prior to discharging any dredged or fill materials into any Waters of the U.S. Since the Waters of the U.S. are likely also Waters of the State, the 401 Water Quality Certification</p>	<p><b>Action:</b> Obtain a Section 404 Permit and implement conditions</p> <p><b>Timing:</b> Prior to construction</p>	<p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>USACE, CVRWQCB</p>	

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>will authorize fill to Waters of the State. Specific impact avoidance, minimization, and/or compensation measures shall be developed and implemented as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit and an application for a 401 Water Quality Certification for the Project shall be prepared and submitted to USACE and CVRWQCB. Mitigation for impacts to Waters of the U.S., if needed, shall be established through the Section 404 permit process.</p> <p>If the Project does not qualify for a NWP27, compensation for permanent impacts to a maximum of 2.05± acres of Waters could be accomplished by:</p> <ul style="list-style-type: none"> <li>• Purchase of mitigation credits to achieve no net loss at an USACE-approved mitigation bank; and/or</li> <li>• Permittee-responsible mitigation (e.g., preservation and creation) to achieve no net loss at an on or offsite mitigation property.</li> </ul>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<b><i>Cultural Resources</i></b>					
<p><b>CUL-1: Monitoring at P-39-4531</b></p> <p>All ground-disturbing activities within 15 meters (50 feet) of the intact portion of P-39-4531 shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards for pre-contact and historic archaeologist. The portions of the resource along the floor of Mormon Slough are not intact and therefore do not require archaeological monitoring.</p>	<p><b>Action:</b></p> <p>Conduct archaeological monitoring</p> <p><b>Timing:</b></p> <p>During construction</p>	<p>Project Archaeologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>		
<p><b>CUL-2: Contractor Awareness Training</b></p> <p>An archaeological sensitivity training program shall be developed and implemented during a pre-construction meeting for construction supervisors. The contractor awareness training shall be conducted and/or supervised by a professional archaeologist meeting the standards specified above. The training shall be conducted prior to any ground disturbing activities within the property. The program will</p>	<p><b>Action:</b></p> <p>Develop a DVD and poster to provide contractor/worker archaeological sensitivity training,</p> <p><b>Timing:</b></p> <p>Prior to construction</p>	<p>Project Archaeologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>		

Bellota Weir Modification Project  
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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>provide information about notification procedures when potential archaeological material is discovered, procedures for coordination between construction personnel and monitoring personnel, and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during project construction. This protocol shall be communicated by a video on a DVD to all new construction personnel during orientation, and on a poster that is placed in a visible location inside the construction job trailer.</p>					
<p><b>CUL-3: Stop Work if Cultural Resources or Human Remains are Detected</b></p> <p>If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor required by mitigation measure CUL-1, all work must halt within 20 feet of the discovery. The monitor shall notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-</p>	<p><b>Action:</b></p> <p>Stop Work if Cultural Resources or Human Remains are Detected</p> <p><b>Timing:</b></p> <p>During construction</p>	<p>Project Archaeologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>San Joaquin County Coroner, NAHC, Native American Most Likely Descendant</p>	

Bellota Weir Modification Project  
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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:</p> <ul style="list-style-type: none"> <li>• If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.</li> <li>• If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SEWD, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures shall be implemented. Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2)</li> </ul>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>that the treatment measures have been completed to its satisfaction.</p> <ul style="list-style-type: none"> <li>If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC</li> </ul>					

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>can mediate (§ 5097.94 of the PRC). If no agreement is reached, the SEWD must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.</p>					
<b>Geology and Soils</b>					
<p><b>GEO-1: Discovery of Unknown Paleontological Resources</b></p> <p>Prior to any earth-disturbing activities, a professional paleontologist will provide the construction crew with a brief orientation to the fossils that' could be unearthed and the appropriate action that should be taken should</p>	<p><b>Action:</b></p> <p>Provide contractor/worker paleontological sensitivity training; stop work if paleontological</p>	<p>Project Archaeologist, Construction Manager</p> <p>_____</p> <p>Initials</p> <p>_____</p> <p>Date</p>	<p>SEWD</p> <p>_____</p> <p>Initials</p> <p>_____</p> <p>Date</p>		



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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>that occur. During that visit to the site, and prior to orientation session, the paleontologist will also perform a paleontological walkover survey.</p> <p>If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be diverted at least 15 feet away from the discovery and the area shall be isolated using orange or yellow fencing until SEWD is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project site. If SEWD resumes work in a location where paleontological remains have been discovered and cleared, SEWD shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.</p>	<p>resources are found; have a qualified paleontologist evaluate the find and recommend appropriate treatment.</p> <p><b>Timing:</b> Prior to and during construction</p>				

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<b><i>Hazards and Hazardous Materials</i></b>					
<p><b>HAZ-1: Asbestos Removal Compliance</b></p> <p>The Proposed Project shall comply with all federal, state, and local regulations concerning asbestos. Prior to structure demolition and consistent with the Project specifications, an asbestos removal contractor registered by the contractor’s state license board shall conduct removal of all suspected asbestos containing materials. During demolition, water support shall be used to prevent the release of visible air emissions.</p>	<p><b>Action:</b></p> <p>Comply with all applicable asbestos regulations; asbestos removal shall be completed by a qualified asbestos removal contractor.</p> <p><b>Timing:</b></p> <p>Prior to demolition</p>	<p>Construction Manager</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>		
<b><i>Tribal Cultural Resources</i></b>					
<p><b>TCR-1: Monitor Ground Disturbance to Avoid and Minimize Impacts to Previously Unknown TCRs</b></p> <p>All vegetation removal, soil excavation, and any activity that has the potential to disturb more than six inches of original ground should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 48 hours’ notice of</p>	<p><b>Action:</b></p> <p>Using a qualified tribal monitor, monitor construction activities with the potential to disturb greater than six</p>	<p>Project Archaeologist, Construction Manager</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>	<p>SEWD</p> <hr/> <p>Initials</p> <hr/> <p>Date</p>		

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Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
<p>the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas that were already monitored. Excavated sediment from the river channel will not be subjected to screening; however, any observed cultural materials will be collected and treated in</p>	<p>inches of original ground; stop work if tribal resources are found; Treat any Tribal Resources found in accordance with the unanticipated discovery measures listed in CUL-3.</p> <p><b>Timing:</b> During construction</p>				

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<b>Mitigation Measure</b>	<b>Implementation Actions and Timing</b>	<b>Implementation Responsibility</b>	<b>Responsibility for Oversight of Compliance/ Verification</b>	<b>Agency Coordination</b>	<b>Comments</b>
accordance with the unanticipated discovery measures in the Cultural Section.					

**5.0 LIST OF APPENDICIES**

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Appendix A – Draft Mitigated Negative Declaration for Bellota Weir Modification Project

Appendix B – Notice of Intent

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**APPENDIX A**

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Draft Mitigated Negative Declaration for the Bellota Weir Modification Project

**DRAFT**

# Initial Study and Mitigated Negative Declaration for the Bellota Weir Modifications Project

CEQA Lead Agency:



Stockton East Water District  
6767 East Main Street  
Stockton, California 95215

**September 2022**



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS





**DRAFT**

**Initial Study and Mitigated Negative Declaration**

**Bellota Weir Modification Project**

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**Stockton, California**

**Lead Agency:**



Stockton East Water District  
6767 East Main Street  
Stockton, California 95215

**Prepared by:**



2525 Warren Drive  
Rocklin, California 95677

**September 2022**

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**DRAFT MITIGATED NEGATIVE DECLARATION**

<b>Project Name:</b>	Bellota Weir Modifications Project
<b>Lead Agency:</b>	Stockton East Water District
<b>Project Proponent:</b>	Stockton East Water District
<b>Project Location:</b>	Calaveras River at the fork of Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam

**Project Description Summary:**

The Stockton East Water District (SEWD or District) is developing designs for the Bellota Weir Modifications Project (Project) located at the fork of the Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam. It is a continuation of the Calaveras River Anadromous Fish Protection Project. The Project includes removal of the existing weir and construction of several new elements intended to provide more reliable water delivery systems for SEWD customers, improve migration of both juvenile and adult fish, and reduce fish entrainment at the facilities, thereby enhancing populations of anadromous salmonids using the Calaveras River (CH2M 2003). The following Project actions will be taken to achieve these goals:

- Replace the existing profile control infrastructure
- Provide fish passage facility for fish species throughout various life stages at Project site
- Provide fish exclusion and protection measures for SEWD intake at Bellota Weir
- Exclude fish from migrating downstream into the Old Calaveras River
- Maintain existing flood conveyance

**Public Review Period: September 16, 2022 to October 17, 2022**

**Mitigation Measures Incorporated into the Project to Avoid Significant Effects:****Biological Resources****BIO-1: Protect Water Quality and Minimize Sedimentation Runoff to Waters**

The Project will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan (if required), and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment into Waters. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The Project would require a Section 404 Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the CVRWQCB and/or a Lake or Streambed Alteration Agreement from the CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These permit conditions and BMPs shall also be implemented as part of the Project.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-2 Install Fencing and/or Flagging to Protect Sensitive Biological Resources**

Prior to construction, the Project contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area where adjacent to Environmentally Sensitive Areas (e.g., adjacent riparian areas and any special-status species habitat and/or active bird nests that may be identified during per-construction surveys). The SEWD will ensure that the final construction plans show the locations where fencing will be installed. The plans also shall define the fencing installation procedure. The SEWD or contractor (at the discretion of the SEWD) will ensure that fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The Project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Areas. All temporary fencing will be removed upon completion of construction.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-3 Conduct Environmental Awareness Training for Construction Personnel**

Before any work occurs within the Project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the Project will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of any permit, Biological Opinion or other authorizing document (e.g., letter of concurrence) that may be prepared for the Project. The environmental training will also cover general

restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during Project construction.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-4      Conduct Section 7 Consultation with USFWS for Elderberry Long Horn Beetle (VELB) and Implement Required Mitigation**

The following shall be implemented through the standard Army Corps Section 404 permitting process to minimize potential impacts to VELB:

- If elderberry shrubs would be removed or if construction ground disturbance would occur within 165 feet of an elderberry shrub, an evaluation using the 2017 USFWS guidance entitled USFWS 2017 Framework for Assessing Impacts to the VELB (USFWS 2017) (Framework) shall be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.
- Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
- A preconstruction survey shall be conducted by a qualified biologist in all riverine/riparian habitat within 165 feet of Project disturbance areas before any construction activity. The surveys shall be conducted according to the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle.

If elderberry shrubs are located 165 feet or more from Project activities, direct or indirect impacts are not expected. Shrubs located in riparian areas and within 165 feet of ground-disturbing activities shall be protected from indirect effects during construction by establishing and maintaining a high-visibility temporary construction fence.

If elderberry shrubs can be retained within the Project footprint, Project activities may occur in close proximity to the elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts. If feasible, an avoidance area shall be established at least 20 feet from the drip line of an elderberry shrub for any activities that may damage the elderberry shrub and the Project proponent shall implement avoidance and minimization measures specified in the USFWS Framework.

As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the valley elderberry longhorn beetle (March - July).

For elderberry shrubs that cannot be avoided according to the USFWS 2017 Framework, SEWD shall compensate for the loss of valley elderberry longhorn beetle habitat consistent

with the Framework by purchasing appropriate credits at an agency approved mitigation bank, such as the French Camp Conservation Bank.

If trimming elderberry shrubs is proposed, trimming shall be conducted between November and February and shall not result in the removal of elderberry branches that are  $\geq$  one inch in diameter. If trimming results in removing branches that are  $\geq$  one inch in diameter, the Project proponent shall mitigate for the loss of the valley elderberry beetle habitat via the standard permit process consistent with the USFWS 2017 Framework.

The Project proponent shall comply with the ESA and consult with USFWS and will compensate for the unavoidable loss of elderberry shrubs according to USFWS 2017 Framework. The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank (as discussed above), providing onsite mitigation, or establishing and protecting habitat for valley elderberry longhorn beetle.

Because VELB is a SJCMSPP covered species, substitute mitigation for this species could also be accomplished via the SJCMSPP.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-5 Survey for Swainson's Hawk and Other Protected Raptor nests and Protect Nesting Activity**

For activities with potential to affect Swainson's hawk and other raptor nests, or remove Swainson's hawk foraging habitat, SEWD shall consult with CDFW with respect to the following measures proposed to mitigate for habitat removal and potential nest disturbance. As part of the consultation, SEWD may seek take authorization under Section 2081 of the Fish and Game Code. The following measures will be implemented and are intended to avoid, minimize, and fully mitigate impacts to Swainson's hawk, as well as other raptors:

- For construction activities that would occur within 0.25 mile of a known or likely Swainson's hawk nest site, SEWD shall attempt to initiate construction activities before the nest initiation phase (i.e., before March 1). Depending on the timing, regularity, and intensity of construction activity, construction in the area before nest initiation may discourage a Swainson's hawk pair from using that site and eliminate the need to implement further nest-protection measures, such as buffers and limited construction operating periods around active nests. Other measures that could be used to deter establishment of nests (e.g., reflective striping or decoys) may be used before the breeding season in areas planned for active construction. However,

deployment of nest deterrents does not guarantee success. If breeding raptors establish an active nest site, as evidenced by nest building, egg laying, incubation, or other nesting behavior, near the construction area, they shall not be harassed or deterred from continuing with their normal breeding activities.

- For Project activities, including tree removal, that begin between March 1 and September 15, qualified biologists shall conduct preconstruction surveys for Swainson's hawk and other nesting raptors and to identify active nests on and within 0.5 mile of the project site. The surveys shall be conducted before the beginning of any construction activities between March 1 and September 15, following the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000).
- Impacts to nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson's hawk and 500 feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and SEWD, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.
- Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.

Because Swainson's hawk is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-6 Survey for Tricolored Blackbird and Protect Nesting Activity**

The following measures shall be implemented to avoid or minimize loss of active tricolored blackbird nests:

- To minimize the potential for loss of tricolored blackbird nesting colonies and other nesting birds in the project site, vegetation removal activities shall commence during the nonbreeding season (September 1-January 31) to the extent feasible. If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.



Before removal of any vegetation within potential nesting habitat between February 1 and August 31, a qualified biologist shall conduct preconstruction surveys for nesting tricolored blackbirds (colonies). The surveys shall include all onsite suitable nesting habitat and all suitable nesting habitat located within 100 feet of the construction disturbance boundary and shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the Project design to avoid removal of occupied habitat while still achieving Project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with Project objectives, construction shall be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest colony is no longer active. These recommended buffer areas may be reduced or expanded through consultation with CDFW. Monitoring of all occupied nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.

Because Tricolored blackbird is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-7      Conduct Fish Rescue and Relocation**

Prior to initiation of construction, a fish exclusion, rescue, and relocation plan shall be prepared and approved by NMFS and CDFW and implemented during construction. The plan shall identify the methods, equipment, fish protection measures, and release location(s) for all fish collected during dewatering of the site. The fish rescue and relocation effort shall be conducted by qualified fisheries biologists during the dewatering process to minimize the potential injury or death of juvenile steelhead, or other fish and aquatic species potentially stranded in isolated pools during dewatering of the project site.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-8      Conduct Section 7 and Magnuson-Stevens Act Consultation with NMFS for CCV DPS Steelhead and Essential Fish Habitat for Pacific salmon and Implement Required Mitigation**

Prior to initiation of construction, the Project shall undergo ESA and MSA consultation with NMFS through the Corps Section 404 permitting process and shall comply with all terms and conditions of the consultation. Conservation measures to reduce the likelihood of take of

CCV DPS steelhead, designated critical habitat for CCV DPS steelhead, and Essential Fish Habitat for Chinook salmon may include, but are not limited to:

- If feasible, conduct all in-channel work during the mid-June to late October in-water work window.
- Conduct worker environmental awareness training.
- Conduct fish exclusion, rescue, and relocation efforts during dewatering activities.
- All dewatering pumps and the intake to the diversion pipe shall be fitted with fish screens meeting NMFS fish screen criteria.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-9: Obtain a CDFW Routine Maintenance Agreement and Implement Required Conditions**

Prior to operational maintenance activities with potential to impact fish and wildlife, SEWD shall consult with CDFW and if required obtain an RMA for the Project. The RMA shall address all anticipated maintenance activities and shall identify appropriate implementation timing and related best management practices to minimize impacts to fish and wildlife resources. The RMA shall be developed consistent with conditions contained in the Project's USFWS and NMFS Biological Opinions and shall identify criteria for when a maintenance activity triggers consultation with the Federal resource agencies.

*Timing/Implementation: Prior to operational maintenance*

*Monitoring/Enforcement: SEWD*

**BIO-10 Compensate for the Permanent Loss of Waters of the United States/Waters of the State and Restore Temporary Disturbed Areas**

Impacts to Waters of the U.S. are expected to be offset by the Project's environmental benefits, therefore the Project would qualify for an USACE NWP27 and compensatory mitigation for impacts to wetlands and waters would not be required.

Authorization to fill Waters of the U.S. under the Section 404 and 401 of the federal CWA (Section 404 Permit and Section 401 Water Quality Certification) shall be obtained from USACE and CVRWQCB prior to discharging any dredged or fill materials into any Waters of the U.S. Since the Waters of the U.S. are likely also Waters of the State, the 401 Water Quality Certification will authorize fill to Waters of the State. Specific impact avoidance, minimization, and/or compensation measures shall be developed and implemented as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit and an application for a 401 Water Quality Certification for the Project shall be prepared and submitted to USACE and

CVRWQCB. Mitigation for impacts to Waters of the U.S., if needed, shall be established through the Section 404 permit process..

If the Project does not qualify for a NWP27, compensation for permanent impacts to a maximum of 2.05± acres of Waters could be accomplished by:

- Purchase of mitigation credits to achieve no net loss at an USACE-approved mitigation bank; and/or
- Permittee-responsible mitigation (e.g., preservation and creation) to achieve no net loss at an on or offsite mitigation property.

*Timing/Implementation:*     *Prior to and following construction*

*Monitoring/Enforcement:*    *SEWD/Consultant*

## **Cultural Resources**

### **CUL-1:     Monitoring at P-39-4531**

All ground-disturbing activities within 15 meters (50 feet) of the intact portion of P-39-4531 shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist. The portions of the resource along the floor of Mormon Slough are not intact and therefore do not require archaeological monitoring.

### **CUL-2:     Contractor Awareness Training**

An archaeological sensitivity training program shall be developed and implemented during a pre-construction meeting for construction supervisors. The contractor awareness training shall be conducted and/or supervised by a professional archaeologist meeting the standards specified above. The training shall be conducted prior to any ground disturbing activities within the property. The program will provide information about notification procedures when potential archaeological material is discovered, procedures for coordination between construction personnel and monitoring personnel, and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during project construction. This protocol shall be communicated by a video on a DVD to all new construction personnel during orientation, and on a poster that is placed in a visible location inside the construction job trailer.

### **CUL-3:     Stop Work if Cultural Resources or Human Remains are Detected**

If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor required by mitigation measure CUL-1, all work must halt within 20 feet of the discovery. The monitor shall notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-

work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SEWD, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures shall be implemented. Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the SEWD must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.

## **Geology and Soils**

### **GEO-1: Discovery of Unknown Paleontological Resources**

- Prior to any earth-disturbing activities, a professional paleontologist will provide the construction crew with a brief orientation to the fossils that' could be unearthed and the appropriate action that should be taken should that occur. During that visit to

the site, and prior to orientation session, the paleontologist will also perform a paleontological walkover survey.

- If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be diverted at least 15 feet away from the discovery and the area shall be isolated using orange or yellow fencing until SEWD is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project site. If SEWD resumes work in a location where paleontological remains have been discovered and cleared, SEWD shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

## **Hazards and Hazardous Materials**

### **HAZ-1: Asbestos Removal Compliance**

The Proposed Project shall comply with all federal, state, and local regulations concerning asbestos. Prior to structure demolition and consistent with the Project specifications, an asbestos removal contractor registered by the contractor's state license board shall conduct removal of all suspected asbestos containing materials. During demolition, water support shall be used to prevent the release of visible air emissions.

## **Transportation**

## **Tribal Cultural Resources**

### **TCR-1: Monitor Ground Disturbance to Avoid and Minimize Impacts to Previously Unknown TCRs**

All vegetation removal, soil excavation, and any activity that has the potential to disturb more than six inches of original ground should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 48 hours' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for

equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas that were already monitored. Excavated sediment from the river channel will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with the unanticipated discovery measures in the Cultural Section.

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**ACRONYMS AND ABBREVIATIONS**

Term	Definition
AB	Assembly Bill
ACCM	Asbestos-containing construction materials
ACM	Asbestos containing materials
ANSI	American National Standards Institute
APE	Area of Potential Effects
ARD	Aquatic Resource Delineation
BA	Biological Assessment
BAU	Business as usual
BEM	Bovee Environmental Management, Inc.
BLM	Bureau of Land Management
BMP	Best Management Practices
BPS	Best Performance Standards
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Cal-OSHA	California Department of Occupational Health and Safety
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCIC	Central California Information Center
CCR	California Code of Regulations
CCV	California Central Valley
CCWD	Calaveras County Water District
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH4	methane
CHCP	Calaveras River Habitat Conservation Plan
CHP	California Highway Patrol
CI	Coccidioides immitis
CIWM	California Integrated Waste Management
CJSWCD	Central San Joaquin Water Conservation District



Term	Definition
CMU	Concrete masonry units
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CRHR	California Register of Historic Resources
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CV	Central Valley
CVFPB	Central Valley Flood Protection Board
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DHS	Department of Health Services
DOF	Department of Finance
DPM	Diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plans
ESA	Environmentally Sensitive Areas
FEMA	Federal Emergency Management Agency
FHA	Federal Housing Authority
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FTA	Federal Transit Administration
GBA	Groundwater Banking Authority
GHG	Greenhouse gas
GLO	General Land Office
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HRA	Health Risk Assessment
ICU	Integrated Conjunctive Use
IPaC	Information for Planning and Conservation
IRWMP	Integrated Regional Water Management Plan
ISR	Indirect Source Review
ITMM	Incidental Take Minimization Measures
LED	Light-emitting diode
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration

Term	Definition
MRZ	Mineral Resource Zones
MSA	Magnuson-Stevens Fishery Conservation and Management Act
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NID	
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO <sub>x</sub>	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NTR	National Toxics Rule
OCR	
OHP	Office of Historic Preservation
OHV	Off-Highway Vehicle
OHWM	Ordinary high-water mark
OPR	Office of Planning and Research
PLC	Programmable logic controller
PM	Particulate matter
PM <sub>10</sub>	Particulate Matter Less than 10 Microns in Diameter
PM <sub>2.5</sub>	Particulate Matter Less than 2.5 Microns in Diameter
PPV	Peak particle velocity
PRC	Public Resources Code
RACT	Reasonably Available Control Technology
RCP	Reinforced Concrete Pipe
RMA	Routine Maintenance Agreement
ROG	Reactive Organic Gases
RSP	Rock Slope Protection
RST	Rotary screw trap
SCADA	Supervisory Control and Data Acquisition
SEWD	Stockton East Water District
SFHA	Special flood hazard areas
SGMA	Sustainable Groundwater Management Act
SHTAC	Swainson's Hawk Technical Advisory Committee
SIP	State Implementation Plan
SJCMSP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJCOG	San Joaquin Council of Governments

Term	Definition
SJMSCP	San Joaquin County Multi-Species Conservation Plan
SJRRP	San Joaquin River Restoration Program
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SJVG	San Joaquin Valley Gateway
SMGB	State Mining and Geology Board
SR	State Route
SSC	Species of Special Concern
STP	Shovel Test Pits
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TCR	Tribal Cultural Resources
TRBL	Tricolored blackbird
UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry long horn beetle
VMT	Vehicle miles traveled
VOC	Volatile Organic Compound
WPA	Works Progress Administration
WSE	Water surface elevation
WTP	Water Treatment Plant
WWII	World War II

## 1.0 BACKGROUND

### 1.1 Summary

<b>Project Title:</b>	Bellota Weir Modification Project
<b>Lead Agency Name and Address:</b>	Stockton East Water District (SEWD) 6767 East Main Street Stockton, CA 95215
<b>Contact Person and Phone Number:</b>	Justin M. Hopkins, Interim General Manager (209) 948-0537
<b>Project Location:</b>	Site Address 42340 State Route 26 Valley Springs, California 95215  The Project site is located in San Joaquin County on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, approximately 17 miles downstream of the New Hogan Dam. The Project Area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast.
<b>San Joaquin County General Plan Designation:</b>	Open Space/Resource Conservation (OS/RC)
<b>Zoning (San Joaquin County Development Title):</b>	General Agriculture 40 acres minimum (AG40)

### 1.2 Introduction

The Stockton East Water District is the Lead Agency for this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Bellota Weir Modifications Project. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a Project (Negative Declaration, Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

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## 2.0 PROJECT DESCRIPTION

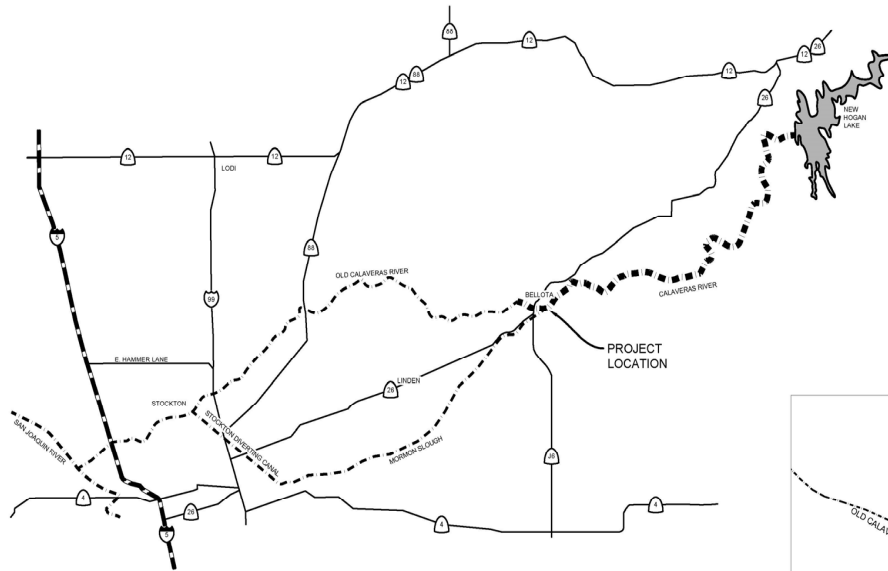
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### 2.1 Introduction

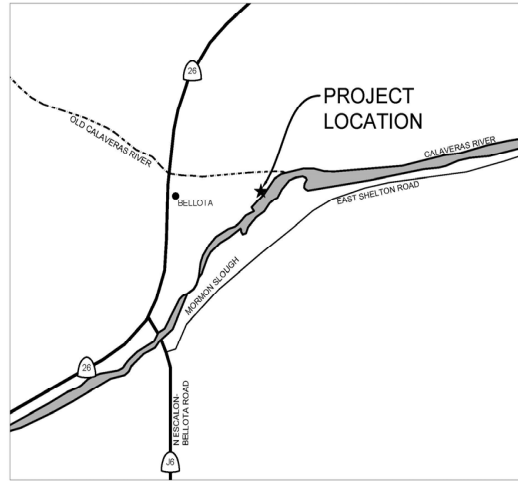
The Bellota Weir Modification Project (Project or Proposed Project), a continuation of the Calaveras River Anadromous Fish Protection Project and requirement of the Calaveras River Habitat Conservation Plan (CHCP), is a proposal by the Stockton East Water District (SEWD) to design, permit and install a modern fish screen and related improvements at SEWD's Bellota Intake Structure. Project components include construction of a new screened diversion intake and associated conveyance improvements, construction of "fishways" comprised of a roughened channel and fish ladder to improve upstream anadromous fish migration from Mormon Slough, and construction of a fish exclusion structure on the Old Calaveras River to prevent entrainment of juvenile salmonids. The Project has been developed collaboratively with other interested agencies, including, California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) to define a final course of action to eliminate known fish passage impediments while improving Bellota Intake Structure operational flexibility. The Project plans continue to be refined in consultation with resource agencies. This Project Description is based on the *Draft (90%) Design Documentation Report, Bellota Weir Modifications Project*, (HDR Inc. 2022), and *DRAFT 90% Hydraulic Modeling Summary Report, Bellota Weir Modifications Project* (HDR Inc. & KSN Inc. 2022a) (Appendix A).

### 2.2 Project Location and Setting

As shown in *Figure 2-1*, the Project is located in San Joaquin County on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam. The Project Area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast. The Project site is shown on *Figure 2-2*. The Project site includes 15.5 acres and is accessed from two existing gated entrances: one at 42340 State Route 26 (referred to as the north entrance) and one at 24645 East Shelton Road (referred to as the east entrance). As shown on *Figure 2-2*, in addition to these existing entrances, three temporary construction entrances are proposed: two from Shelton Road on the east side of Mormon Slough and one from State Route (SR) 26 on the west side of Mormon Slough. The Project site is comprised of all or a portion of the following eight Assessor's Parcel Numbers (APNs): 091-350-060 (State of California); 093-180-040 (SEWD); 091-350-090 (SEWD); 091-350-100 (SEWD); 091-350-080 (SEWD); 091-350-070 (Sacramento San Joaquin Drainage District); 093-180-110 (Wilson); 093-180-290 (Colombini).



**VICINITY MAP**

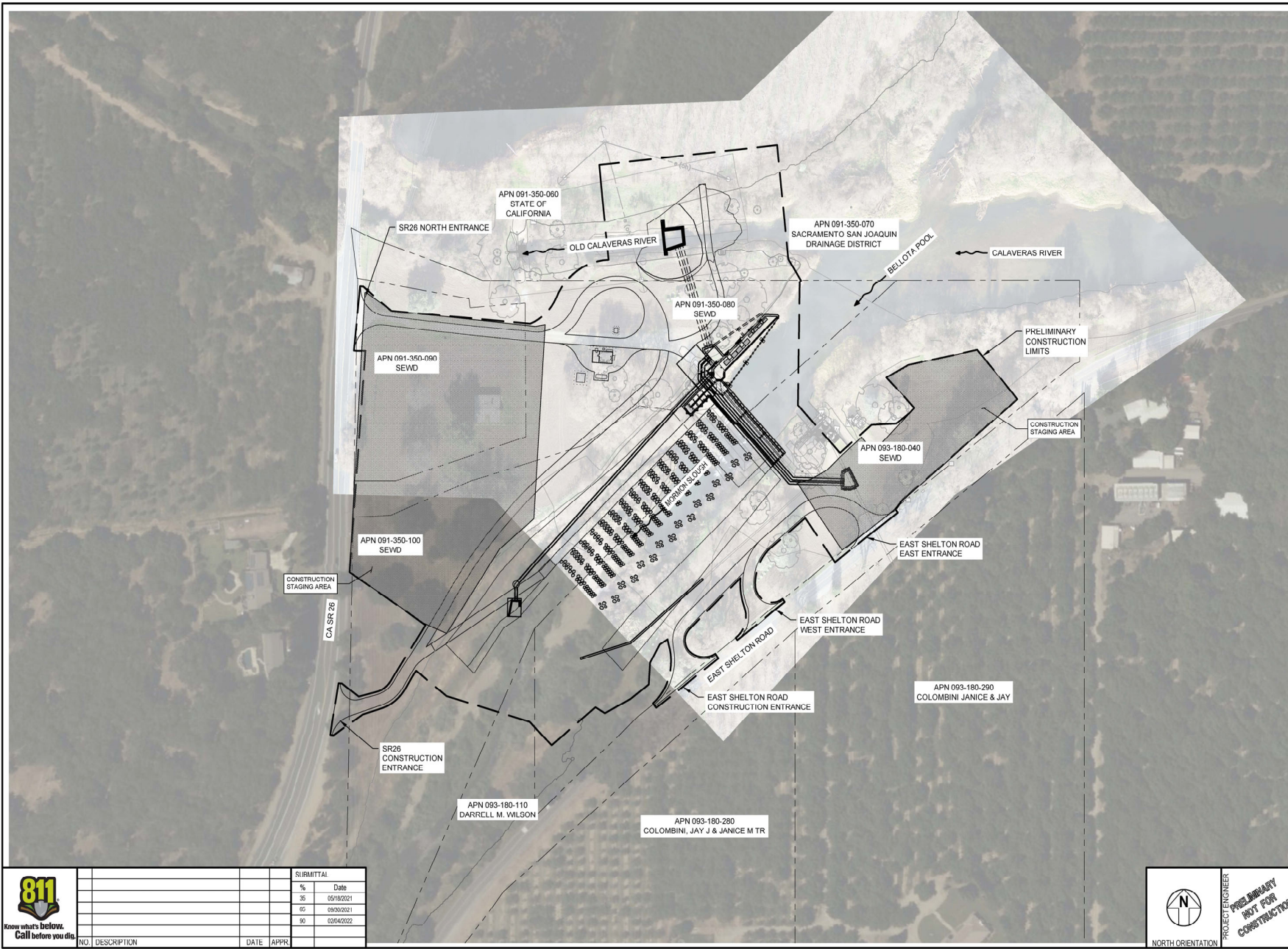


**LOCATION MAP**



**STATE MAP**

FILE SPEC: P:\2432\_SEWD\_Bellota\_Wf\_Fin\_Loader\_Replacement\08\_Chr\_V09\_Plan\026\_CDD\_Sheets\CS104.dwg  
 CUI DATE: Apr 23, 2022 - 2:25pm



NO.		DESCRIPTION	DATE	APPR.
SUBMITTAL				
%	Date			
35	05/18/2021			
60	09/30/2021			
90	02/04/2022			



PROJECT ENGINEER  
**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

KJELDSEN SINNOCK NEULDECK  
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**STOCKTON EAST WATER DISTRICT**  
 8767 EAST MAIN ST.  
 STOCKTON, CA

BELLOTA WEIR MODIFICATIONS PROJECT  
 24320 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA

**CONSTRUCTION LIMITS**  
 50% SUBMITTAL

DESIGN BY: ERS

DRAWN BY: PX

CHECK BY: JJK

SUBMITTED BY: BOR

HORIZONTAL DATUM: CCS83, ZONE 3

VERTICAL DATUM: NAVD88

DRAWING SCALE: HORZ: 1" = 80'

ORIGINAL DRAWING SCALE: 0 1/2" 1"

DATE: 02/04/2022

SHEET IDENTIFICATION: CS104

SHEET OF XX

KSN PROJECT FILE NO: 2432-0010

## 2.3 Project Background

The existing Bellota Weir facility on the Mormon Slough/Calaveras River is owned and operated by SEWD and provides water to urban and agricultural users. The purpose of the Weir is to regulate elevation of water in the Calaveras River to allow for diversions for municipal and agricultural use. The Bellota Intake feeds a pipeline located at the Weir that provides municipal and industrial flow year-round to SEWD's municipal water treatment plant, and supplies irrigation water for agricultural users during the irrigation season (generally between mid-April and mid-October) (Bellota Pipeline).

The Old Calaveras Headworks (Calaveras Headworks), located approximately 400 feet downstream of the Mormon Slough/Old Calaveras River divergence, provides flow control and flood protection to downstream landowners on the Old Calaveras River during the rainy season by routing flood waters down the Mormon Slough, provides irrigation flows during the irrigation season, and provides recharge year-round. The Calaveras River is an ephemeral stream with naturally seasonal hydrology and disconnects from the mainstem San Joaquin River when rainfall is insufficient, which occurred both prior to and after construction of New Hogan Dam. During the rainy season, at times when the Calaveras River is connected with the San Joaquin River both the Bellota Weir and Calaveras Headworks are complete barriers to upstream migrating adult salmonids. During less frequent high flow events (when flows actively spill over the existing Bellota Weir) passage does occur, but not frequently enough or for sufficient duration to provide opportunity for native salmonids.

Continued operation of the Bellota Weir, Bellota Intake, and Old Calaveras River diversion is guided by the CHCP (National Oceanic and Atmospheric Administration [NOAA] 2020.). The CHCP provides operational criteria to support the biological goals of maintaining a viable population of threatened California Central Valley steelhead (*Oncorhynchus mykiss*) within the CHCP boundaries, and maintaining adequate habitat conditions upstream of Bellota for fall-, late fall-, spring-, or winter-run Chinook salmon (*Oncorhynchus tshawytscha*) that may opportunistically migrate into the conservation area. While the CHCP intends to provide conditions that support Chinook salmon should they migrate into the conservation area, these salmon are not expected to maintain a viable population based both on pre-dam and current conditions. The CHCP enables SEWD to comply with the Endangered Species Act (ESA), protecting and managing fishery resources and habitat while maintaining reliable water delivery to its constituents. Following NMFS approval on August 11, 2020, SEWD is authorized for a 50-year Incidental Take Permit (ITP #23264), for ESA-listed species under NMFS authority.

Upgrade or replacement of the Bellota Weir, Bellota Intake, and Calaveras Headworks is a required compliance measure specified in the CHCP, as part of a seven-target fish passage objective. Specifically, the CHCP's target states:

*FP1 and AE1: Avoid migration delays and blockage, and entrainment within the Old Calaveras River Channel by constructing a non-entraining barrier at the Old Calaveras River Headworks Facility and at the downstream end of the channel near the confluence with the [Stockton Diverting Canal] within the first ten years of the ITP.*



*FP2/AE3: Construct and implement a combined crest gate/fishway/fish screen at the Bellota [Intake] Diversion Facility to improve [salmonid] passage into/out of the 18-mile spawning and rearing reach between Bellota and New Hogan Dam and to prevent fish entrainment; target completion within first five years, but no later than 10 years of [issuance of] the ITP.*

SEWD's maximum existing diversion through the Bellota Intake structure is 75 cubic feet per second (cfs), while the project contemplates 75 cfs + 30% redundancy + 100 cfs future for a total of a 200 cfs capacity diversion. The proposed operations to be accommodated by the screen are both within the water rights and water supply contract held by the District and consistent with historic operations.

SEWD's water use from the Calaveras River is supported by two separate appropriative water rights issued by the State Water Resources Control Board:

### **2.3.1 LICENSE 2021**

This right, held by SEWD, allows 13.75 cfs to be directly diverted from January 1 through June 15 of each year, and 11,500 acre feet to be diverted to underground storage from November 1 through June 1 of each year, for irrigation and domestic uses. This appropriative right has been licensed, which documents that all water licensed has been placed to beneficial use within the authorized place of use, which is within SEWD.

### **2.3.2 Permit 014434**

This right, held by the Bureau of Reclamation, allows 200 cfs to be directly diverted, and 325,000 acre feet to be diverted to storage in New Hogan Reservoir, from November 1 through May 1 of each year for irrigation, municipal and industrial purposes.

All water under Permit 014434 has been placed to beneficial use and water has been maximized under all licensing parameters. SEWD has a right under its contract with the Bureau of Reclamation and Calaveras County Water District (CCWD) to take all water available under the permit that is not used by CCWD. The total annual supply available is approximately 84,100 acre-feet per year in normal water years. At the current level of CCWD use, the District can rely on about 80,000 ac-ft/yr of supply from the New Hogan Project in normal water years under safe yield operation.

Under its combined rights as listed above, Stockton East is entitled to, and has historically diverted, more than the 200 cfs for which the fish screen is being designed, it has just not taken more than 73 cfs in the past through the Bellota Diversion due to that diversion's flow rate limitation. Historically, amounts above the 73 cfs have been released below Bellota into the Old Calaveras River, and into Mormon Slough, where water would be diverted downstream for irrigation and groundwater recharge. With the flexibility allowed by increased screened diversions at Bellota, the district could redirect some of the other water –historically diverted and used – into the screened diversion for distribution to other areas of the District.

## **2.4 Project Objectives**

The Proposed Project would generate multiple benefits and addresses a priority list item for both the CDFW 2017 Fish Passage List and the 2017 Priority Water Diversions for Screening. Completion of the

Project would provide protection for threatened Central Valley steelhead (*O. mykiss*) during outmigration and will allow for improved adult access to optimal spawning and rearing habitat upstream of the Project Area.

Based on the CHCP targets summarized above, and SEWD's water supply needs, the three primary Project objectives are to:

- **Improve fish passage** by designing and constructing a new crest gate dam, fishway, and fish screens that includes passage for *Oncorhynchus mykiss* and opportunistic migration for fall-, late fall-, spring-, or winter-run Chinook salmon;
- **Reduce fish entrainment** by constructing a new non-entraining fish barrier at the Old Calaveras River and new surface water intake with fish screens; and,
- **Provide more reliable water delivery** through weir and intake improvements.

## 2.5 Existing Site Conditions

Existing conditions within the Study Area are described below.

### 2.5.1 Calaveras River

The Project is located within the Calaveras watershed at the divergence of the Old Calaveras River Channel and Mormon Slough. Upstream of the Project site, the Calaveras River is divided into two reaches: one reach upstream of the New Hogan Reservoir and Dam and another between the dam and the Project site at Mormon Slough. The Calaveras River is substantially rain-fed, with little to no snow runoff, due to the low elevation of the upper watershed area. The basin reach upstream of New Hogan Reservoir is 363 square miles. The Calaveras reach between New Hogan Reservoir and the Project is an additional 107 square miles. SEWD is the watermaster for New Hogan Reservoir and controls non-flood control releases from New Hogan Dam. When New Hogan Reservoir storage encroaches into the flood control curve, responsibility for Calaveras River discharge is regulated by the U.S. Army Corps of Engineers' operations at New Hogan Reservoir. During the rainy season the Calaveras River also receives uncontrolled flows from Duck Creek, Indian Creek, and Cosgrove Creek. Inflow from Cosgrove Creek can be as great as the controlled flood releases from New Hogan Dam.

At the Project site, the Calaveras River flow channeled into Mormon Slough is controlled by the Calaveras Headworks. Compared to the channel upstream of Mormon Slough, the channel capacity of downstream Mormon Slough is significantly reduced due to excessive vegetation caused by irregular flows.

### 2.5.2 Existing Constructed Facilities

Mormon Slough and other existing municipal and industrial facility improvements constructed in the Project vicinity are described below. These facilities become impediments to salmonids at various times due to flow conditions. These facilities are shown on Figure 2-3 and are further described below.



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

**Figure 2-3. Existing Prominent Features**

2019-225 Bellota Weir Modification Project

### **2.5.3 Mormon Slough**

Mormon Slough is a flood control channel completed in 1971 to divert flood flows from the Upper Calaveras and reintroduce them into the Calaveras River channel closer to the City of Stockton. The flood control facility included widening Mormon Slough, levee construction, and bank protection. The design discharge for Mormon Slough is 12,500 cfs and is intended to accept the full flow of the Calaveras River for a 100-year flood event.

### **2.5.4 Bellota Weir**

The Bellota Weir, built in the 1940s, is the largest check dam on the Calaveras River system and was constructed to raise the upstream water surface elevation to allow diversion of 75 cfs at the Bellota Diversion Intake for diversions to the water treatment plant. The Bellota Weir is located on Mormon Slough approximately 350 feet downstream of the Old Calaveras River/Mormon Slough divergence. The Bellota Weir is an in-river concrete structure designed to accommodate installation of a flashboard dam; during irrigation season, the check dam crest with the flashboards installed is 8 feet above the channel invert (invert elevation of 121.44 feet North American Vertical Datum of 1988 [NAVD88]). During non-irrigation season (flood season) periods of the year, shorter flashboards are installed 2 feet above the channel invert to allow for continued municipal and industrial diversions to the treatment plant.

As shown on Figure 2-3, the Bellota Weir currently utilizes two portable Denil fish ladders, first installed in 1999 and 2001. During the irrigation season, only the downstream Denil fish ladder is in place, while during non-irrigation times, both Denil fish ladder sections are in place.

The CDFW and Fishery Foundation of California evaluated conditions at the ladders in 2007. The upper ladder is longer than the maximum recommended ladder length of 30 feet. The lower ladder has a 1 horizontal to 3 vertical (1H:3V) slope ratio, double the maximum recommended slope of 1H:6V. Finally, water does not flow through the lower ladder as intended but instead around the sides resulting in an inadequate water supply to the ladder that confuses fish looking for the ladder entrance (California Department of Water Resources [CDWR] 2007).

### **2.5.5 Bellota Diversion Intake**

The Bellota Diversion Intake is a gravity diversion constructed in 1978, on the south riverbank approximately 50 feet upstream of the Bellota Weir. The Bellota Diversion Intake was constructed to divert flows from Mormon Slough via the Bellota Pipeline to the Dr. Joe Waidhofer Water Treatment Plant (SEWD et al. 2020) located at 6767 East Main Street, Stockton, CA 95215 and for irrigation supplies to Potter Creek, when capacity is available. The Bellota Intake structure includes bulkhead slots for installation of stop logs, a trash rack facility, two 14-foot-wide rectangular intake channels perpendicular to the river, two intakes with fish screens, a bypass pipeline, a sediment trap, and two slide gates to regulate flow.

### **2.5.6 Calaveras Headworks**

The Calaveras Headworks, built in 1933, is located approximately 600 feet downstream of the Old Calaveras River/Mormon Slough divergence on the Old Calaveras River. The existing structure includes an earthen berm, four culverts with control gates, a trash rack, and concrete slope lining. The Calaveras Headworks is used to control flow when water is released downstream into the Old Calaveras River.

The earthen berm crest is 68 feet long and 10 feet wide. The 4-foot-wide concrete culverts penetrate the berm and control flow to the Old Calaveras River. There is a 21-foot-wide trash rack on the upstream side of the berm protecting the culvert inlets, their concrete headwall, and wing walls. Flow is controlled with slide gates on the upstream side – two are operated manually and two are electrically actuated. The slide gates are operated during the irrigation season (between mid-April and mid-October) to deliver water to downstream agricultural users, and intermittently during the non-irrigation season (between mid-October and mid-April) for groundwater recharge on the Old Calaveras River (SEWD and FISHBIO 2019).

The Calaveras Headworks creates a barrier to upstream adult fish migration and does not currently comply with juvenile downstream passage or fish protection guidelines provided by CDFW and NMFS. Generally, flow conditions in the Old Calaveras are not conducive to the entire spectrum of salmonid life stage across the entire year (e.g., migration, spawning, and rearing).

In 2003, SEWD placed a mesh net across the Old Calaveras River upstream of the Calaveras Headworks structure (CH2M 2003) to encourage juvenile fish to reside in the Bellota Pool and migrate upstream to suitable habitat or downstream to the Mormon Slough.

## **2.6 Proposed Project Overview**

The Proposed Project combines several operational and engineered elements to achieve the Project objectives outlined in Section 2.4 above. The proposed major Project components are shown on *Figure 2-4* and include the following.

- Remove the existing Bellota Weir and construct a concrete dam with a series of weir gates designed to modulate forebay pool elevations based on operational needs.
- Improve sediment conveyance by including sluicing functions in the forebay, intake manifold, and screen channel.
- Provide reliable fish passage using a roughened channel combined with a fishway utilizing both vertical slot, pool, and weir techniques to accommodate the full range of flows and river stages at the site.
- Provide reliable fish screening, both for the Bellota Intake and the Old Calaveras River, to prevent fish entrainment.
- Provide a non-entraining fish barrier to the Old Calaveras River using an earthen embankment.



Removal of the existing Bellota Weir, in combination with the above components, would improve migration of both juvenile and adult fish, and reduce fish entrainment at the facilities, while not adversely impacting continued reliable water delivery. The proposed Project's primary fish passage and diversion components are further described below.

## **2.7 Project Components**

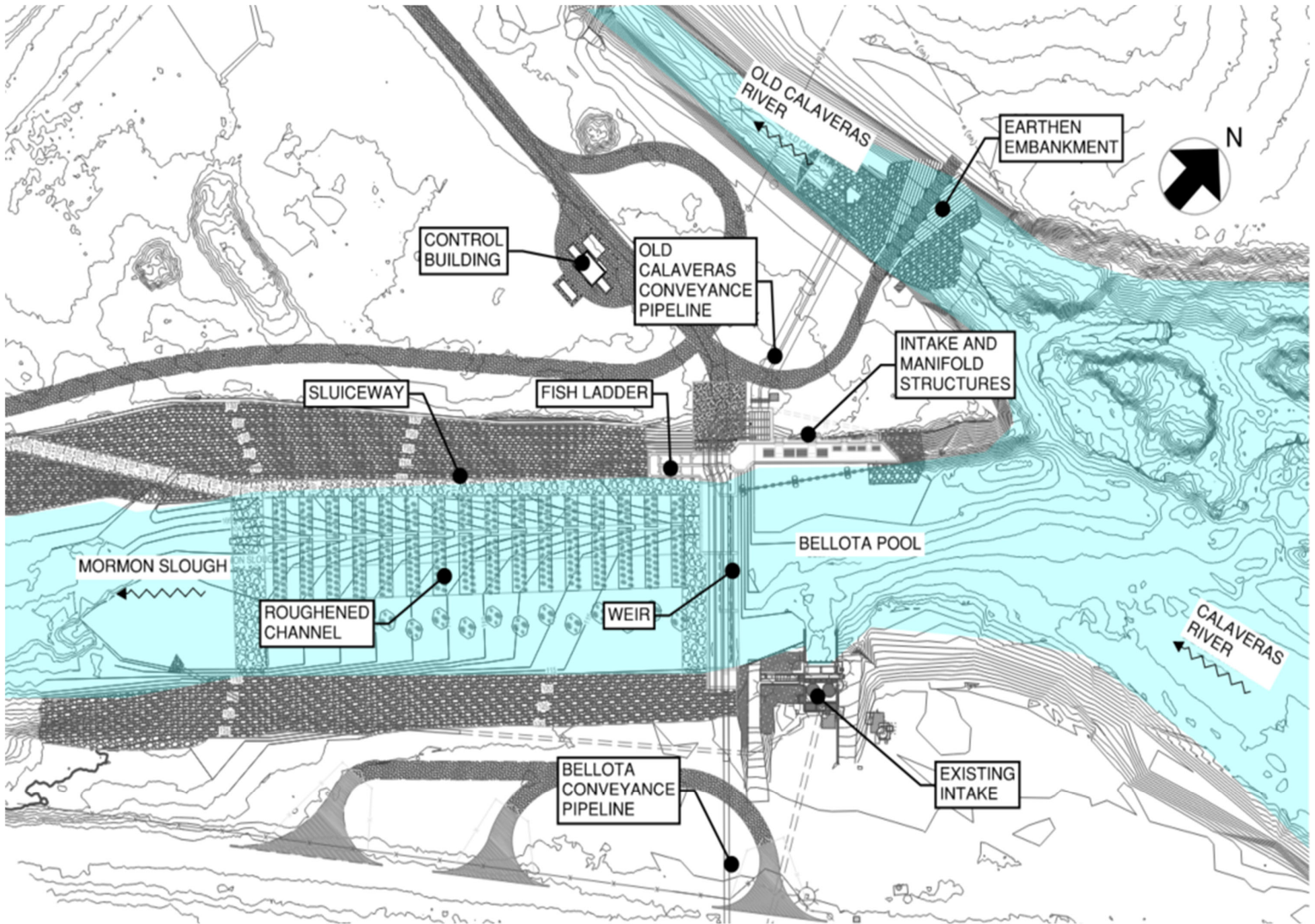
The proposed major Project components are shown in *Figure 2-5* and are generally described below. For additional information pertaining to the hydraulic, civil, geotechnical, mechanical, and structural design of the below Project components, refer to the Draft Design Documentation Report (90%) (HDR Inc. & KSN Inc. 2022a) Sections 4, 5, 7, and 8 (contained in Draft EIR Appendix A). From a geotechnical design perspective, it should be noted that Project site soils are subject to a potential liquefaction risk. Thus, the design of structures and pipelines throughout the Project include stone column soil improvements or pile supports to mitigate potential settlement due to liquefaction and include flexible connectors to maintain hydraulic connectivity between pipelines and structures if settlement does occur.

### **2.7.1 Bellota Weir**

The proposed Bellota Weir (identified as Weir on *Figure 2-5*) would replace the existing concrete dam and flashboard weir with a new 150-foot-wide concrete dam with inflatable bladder gate weir to regulate the upstream surface water elevation.

As shown in *Figure 2-6*, the Bellota Weir would include adjustable weir gates in each of the three bays across the Mormon Slough. Each bay would be separated by a pier. The north gate bay (Weir Gate 3 in *Figure 2-6*) would be set 1 foot lower in elevation than the center and south gate bays. The lower bay elevation would allow fish passage when the fish ladder is not in operation. Additionally, weir gates would be used to maintain the forebay water surface elevation (WSE) when in the fully raised or partially raised position. When lowered, the weir gates allow for the passage of debris downstream. Accumulated bed load can also be moved when the weir gates are fully lowered; however, it is not the most effective method of passing accumulated bed load when it is not agitated and/or suspended in the water column. During operational periods, the minimum maintained upstream WSE would be 115.44 feet NAVD88 and the maximum WSE to be maintained would be 121.44 feet NAVD88.

The adjustable weir gates would be actuated by pressurized air bladders that sit underneath the gate leaf on the downstream end which rotate about the hinge located at the upstream end. Compressed air would be piped from the control building to inflate the bladders and lift the gate to the desired position. The maximum height of the gate leaf, or the gate leaf in the fully raised position, is set by restraining straps anchored to the concrete and connected to the gate. To lower each gate leaf, air would be released from the bladder.



**Figure 2-5. Overview of Proposed Project Components**

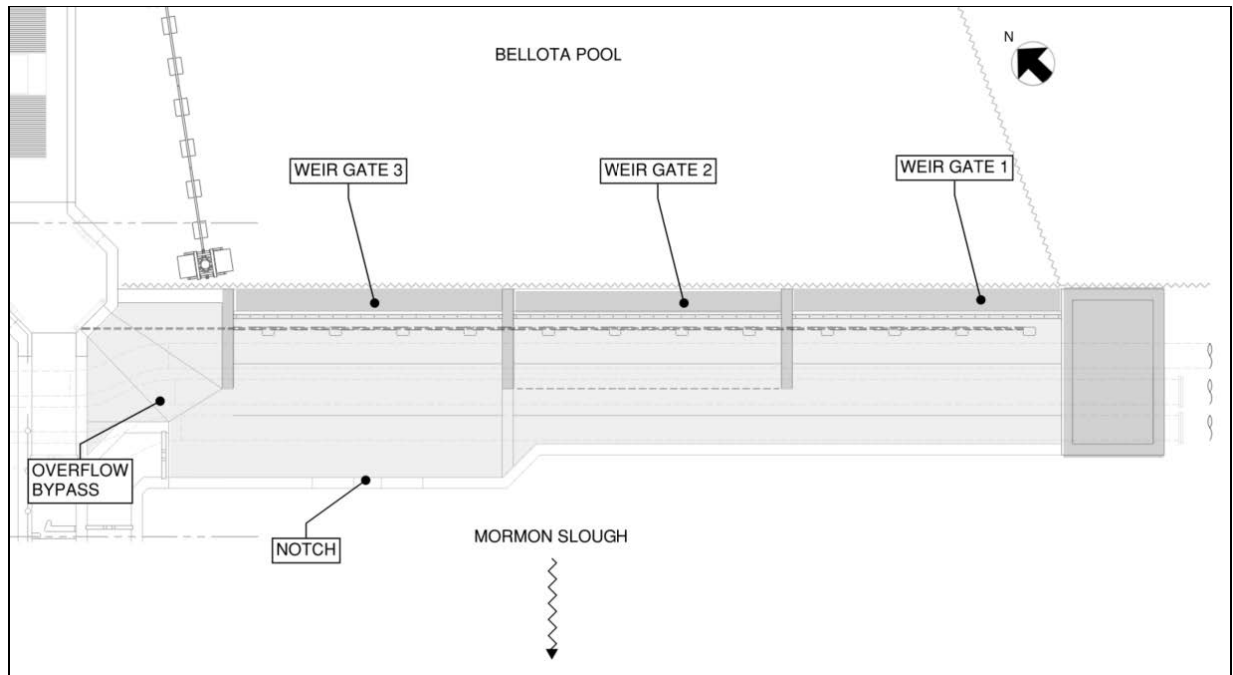
2019-225 Bellota Weir Modification Project





The air bladder is made from durable rubber; however, it can be susceptible to being punctured from debris or otherwise. To address this, the design includes a protective bladder plate. The protection plate is attached to the gate leaf's downstream tip with a flexible attachment and the other end has a wheel allowing it to move up and down the concrete apron accommodating the full range of gate levels.

There would be a water level sensor upstream of the adjustable weir gates that would feed into the programmable logic controller (PLC) at the control building. A user would be able to set the desired WSE of the forebay and the adjustable weir gates would move and modulate to reach and maintain the desired WSE.



**Figure 2-6 Bellota Weir**

In the event part of the adjustable weir gate(s) needs to be maintained, there is an attachment point on the gate and pier walls. The gate leaf can be held in the raised position by chain or wire rope to the pier without the air bladder being inflated.

## 2.7.2 Intake and Manifold Structures

The proposed new Intake Manifold Structures would be located on the north bank of Mormon Slough, opposite the existing intake and adjacent to the Fish Ladder and Mormon Slough Dam and Weir as shown on *Figure 2-5*. The proposed Intake Structure would replace the existing Bellota Intake as the primary location for future diversions into the Bellota Pipeline. The Bellota Intake structure would occupy approximately 190 feet of riverbank inclusive of a wing wall on the upstream end.

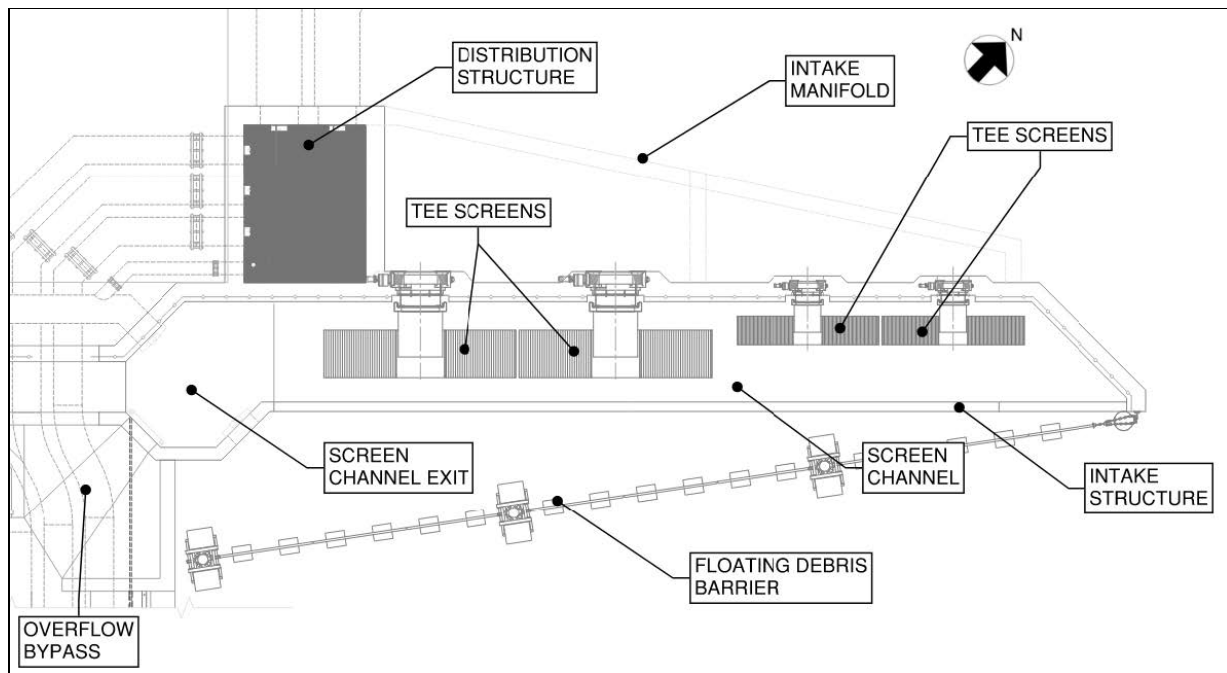
The existing intake structure along the south bank of the Calaveras River includes two fish drums for conveyance to the Dr. Joe Waidhofer Water Treatment Plant (WTP), which provides municipal, and industrial flows to the District.

Under the Proposed Project, the existing intake structure will remain as a backup facility but would be taken offline. The new Intake Structure would include four different fish screens that would serve the WTP and provide screened water flow to the Old Calaveras River for recharge and irrigation by downstream diverters. The resulting maximum demand for diverting flow at this new consolidated intake location is summarized in *Table 2-1*.

<b>Diversion</b>	<b>Present Flow</b>	<b>Future Flow*</b>
Water Treatment Plant	70	200
Old Calaveras River	150	150
<b>Total</b>	<b>220</b>	<b>350</b>

\*Future diversions will not exceed total historical diversions under SEWD water right.

The surface water intake structure would be screened to meet NMFS criteria to prevent fish entrainment or impingement, including juvenile salmonids (*Figure 2-7*). The intake incorporates four cylindrical rotating screens in a T-configuration mounted on retractable guide rails. Two are larger, and two are smaller in order to provide uniform velocities through the large range of flows expected through the intake. Sweeping velocities are maintained using the fish ladder and overflow bypass.



**Figure 2-7 Intake Structure and Manifold**

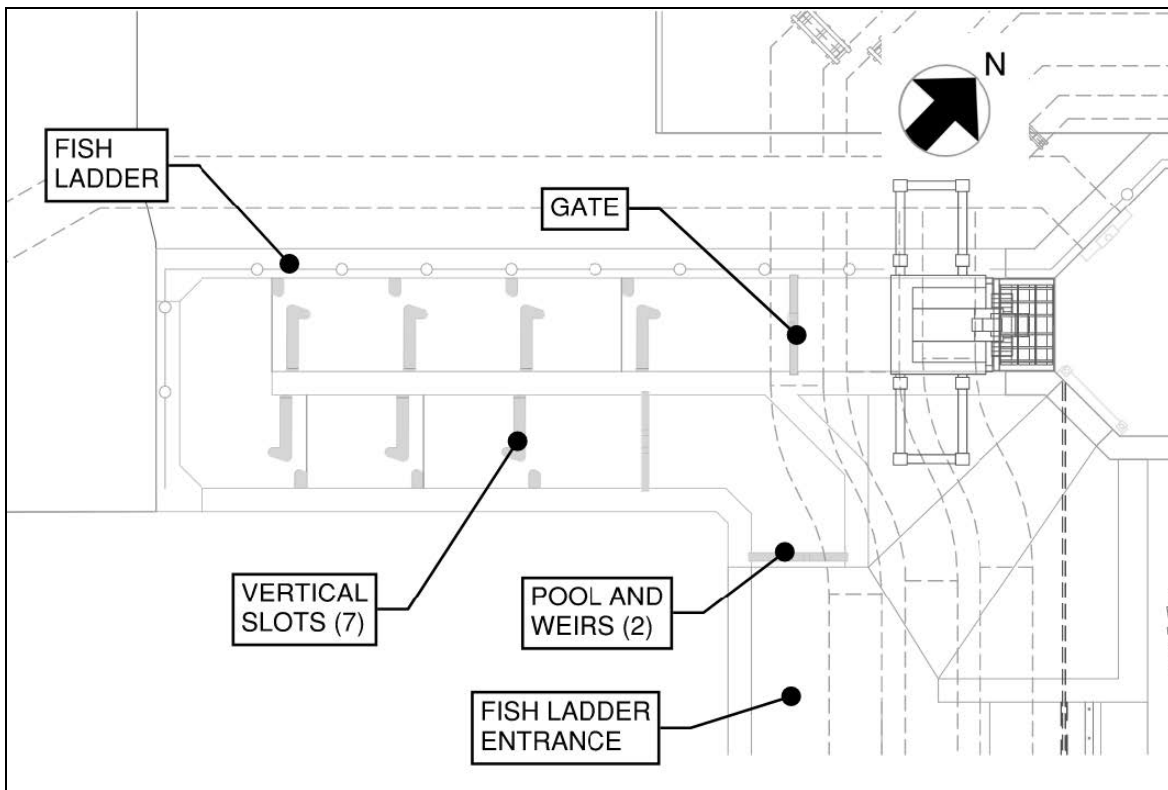
The manifold is designed to promote uniform approach velocities through each of the screens. As flows increase through the screens, the width of the manifold is increased. The manifold is underground and increases in height from upstream to downstream to accommodate increased flow. The downstream end

of the manifold ends in the distribution structure, which diverts flow to either the WTP or Old Calaveras River and extends to the surface.

### 2.7.3 Fish Ladder

As shown in *Figure 2-5*, an approximately 140 foot-long Fish Ladder would be constructed on the north bank of Mormon Slough downstream and adjacent the proposed Bellota Intake and Primary Sluice Way. The Fish Ladder would allow upstream migrating fish to pass over the dam sill during the irrigation season when fish are unable to swim over the raised inflatable bladder dams.

The fish ladder exit is located downstream of the screen channel exit shown in *Figure 2-7*. The fish ladder would only be used during the irrigation season, when the water surface level is raised to 121.44 feet NAVD88 in the forebay. As shown in *Figure 2-8*, the ladder consists of seven vertical slots and two pools and weirs. Each pool is 8 feet wide and 10 feet long. An auxiliary water supply is not needed because the flow in the ladder fits the target attraction flow criteria defined by NMFS. Lamprey ramps are incorporated at each of the two pools and weirs with vertical slots rounded to facilitate lamprey passage.

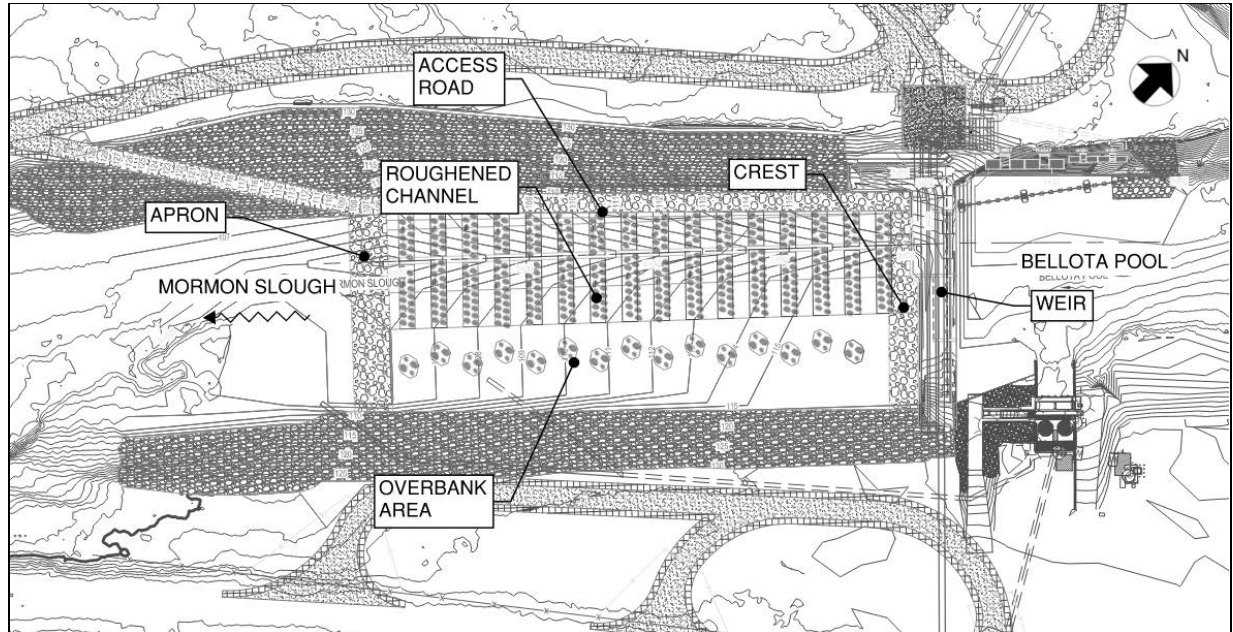


**Figure 2-8. Fish Ladder**

### 2.7.4 Roughened-Channel Fishway

Downstream of the fish ladder entrance, a notch in the sill of the weir is designed to provide fish passage at low flows. This notch is the same design as the roughened-channel fishway geometry. As shown in *Figure 2-9*, the roughened-channel fishway would consist of a channel spanning crest with one main

channel and an overbank area and be composed of a matrix of hard rock sized appropriately to resist degradation or displacement up to the 100-year flood event. No grout or concrete would be used during installation of the rock matrix in the crest or fishways. The roughened-channel fishway would provide fish passage up to the high fish passage design flow and be utilized during all times of the year.



**Figure 2-9. Roughened Channel Plan**

The primary roughened-channel fishway will slope downstream at 3 percent for about 400 feet until it catches the existing channel grade downstream. Additional scour and structural countermeasures (such as the apron identified on *Figure 2-9*) would be incorporated immediately below the roughened channel and crest to accommodate general channel scour and anticipated structure scour that may occur at both transitions. There is also an access road located on the right bank of the channel that will ease maintenance following large flow events.

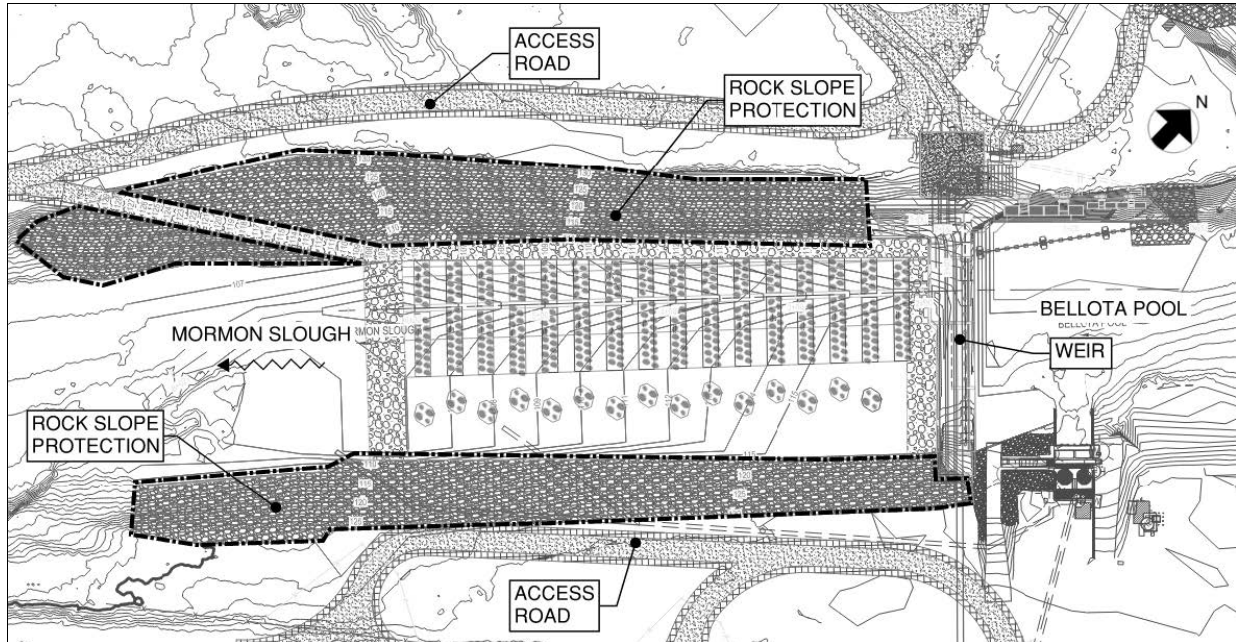
### 2.7.5 Rock Slope Protection

Integration of the new Project elements into the Calaveras River and Mormon Slough influences the velocity and shear characteristics present. Through the hydraulic design process, several locations were identified as at risk of future exposure to scour and erosion. As shown in *Figure 2-10*, rock slope protection is proposed along the banks of the roughened channel to counteract erosive processes. In addition, the rock slope protection would protect the access roads located on the north and south banks of Mormon Slough.

### 2.7.6 Sluiceways

*Figure 2-11* illustrates sluicing features (red), the Bellota conveyance pipeline (purple), and the Old Calaveras conveyance pipeline (green).

Sluicing is incorporated at three different Project locations. There is a sediment sluice gate for the forebay that would be leveled to promote uniform velocity. Whenever the sediment sluice gate is opened, any sediment that has accumulated along the debris wall would be flushed through the gate. From there, it would enter the intake structure.



**Figure 2-10. Rock Slope Protection Areas**

The screen channel also has sluicing capabilities. The screen channel is sloped and would reach a low point to accumulate sediment. When the 54-inch-diameter sluice pipeline gate is open, screen channel sediment also would be washed to the same point downstream of the roughened channel.

Finally, sediment sluicing provisions would be added to facilitate sluicing of accumulated sediment present in the distribution structure. When the 12-inch-diameter sluice pipeline gate is open, accumulated sediment would be conveyed to the 54-inch-diameter sluice pipeline, sluicing the sediment to the same point downstream of the roughened channel.

### **2.7.7 Bellota Conveyance Pipeline**

The main conveyance system is the Bellota conveyance pipelines. These three 54-inch-diameter steel pipes would be formed into the concrete dam sill and capable of passing 200 cfs of diversion flow to the District's main conveyance pipeline(s) (*Figure 2-11*). Two of the three 54-inch-diameter steel pipes would terminate at the south abutment concrete chamber with blind flanges while the third pipe would provide the current District demands until final buildout of their main conveyance system is capable of delivering the 200 cfs flow. There would be three methods of controlling flow: 1) calibrating the three seating head slide gates upstream of each 54-inch-diameter pipe for downstream flow control; 2) adjusting the hydraulic conditions feeding the pipeline(s) based on plant demand; and 3) manually adjusting the gates using the handwheel actuator to obtain the desired flow.



### **2.7.7.1 Connection to Existing Pipeline**

There would be an initial tie-in to the existing 54-inch-diameter Reinforced Concrete Pipe (RCP) main pipeline. This would be accomplished by constructing a new utility access hole in-line of the existing 54-inch-diameter main pipeline on the north side of East Shelton Road.

### **2.7.8 Control Building, Antenna Tower, and Emergency Generator**

A small, 2-room utility building would be located north of the Intake and Manifold Structures and south of the Old Calaveras River as shown on *Figure 2-5*. The building would be constructed of reinforced concrete masonry units (CMUs) and founded on reinforced concrete slab and spread footings. The Control Building would accommodate a mechanical/electrical room and a storage room. The mechanical/electrical room would house the adjustable weir controls such as the compressor(s), receiver tank, and control cabinets. The mechanical/electrical room would also house all control cabinets needed for site features. No offsite utilities would be provided to or from this building aside from electricity.

Each room would have venting louvers and intake fans for air flow. Neither room would be continuously occupied, and ventilation would be sized to have a minimum air exchange of five air exchanges per hour per American Society of Heating, Refrigerating and Air- Conditioning Engineers 62.1 guidance. The mechanical/electrical room would have intake louvers sized to accommodate the air compressors supplying the weir gates to create negative pressure.

Air conditioning would be provided to both rooms by means of a mini split ductless unit with the main unit sitting outside the building on an equipment pad. Also outside of the building would be the main switchboard. While a weatherproof enclosure will be specified, the switchboard should sit on the north side of the building to minimize sun exposure.

A 100-foot-tall antenna tower mounted on an 11-foot by 11-foot concrete foundation would be installed southwest of the control building. The tower would consist of a three-sided triangular frame design that narrows with increasing height. At the base, each tower side would measure 6-feet, 7-inches, narrowing to 1-foot, 6-inches at 80-feet high and remaining at that width for the final 20 feet as shown in *Figure 2-12*. The Antenna Tower would allow for remote monitoring of stream conditions and operation of Project mechanical equipment using Supervisory Control and Data Acquisition (SCADA) technologies.

In the event of a power outage at the site, there would be an emergency generator on standby to provide the required site power. It would be located outside, near the control building, and by the roadside for ease of re-fueling activities. The engine-generator would be housed in a sound attenuated and weather-protected enclosure to have lowest possible noise and exhaust emission per the local noise ordinance and San Joaquin Air Quality Management District air pollution requirements. Generator exhaust points would be oriented away from the Control Building to prevent exhaust from inundating the building. Ventilation intakes for the building would be situated to prevent this from happening.





## **2.8 Fish Exclusion Improvements**

### **2.8.1 Earthen Embankment**

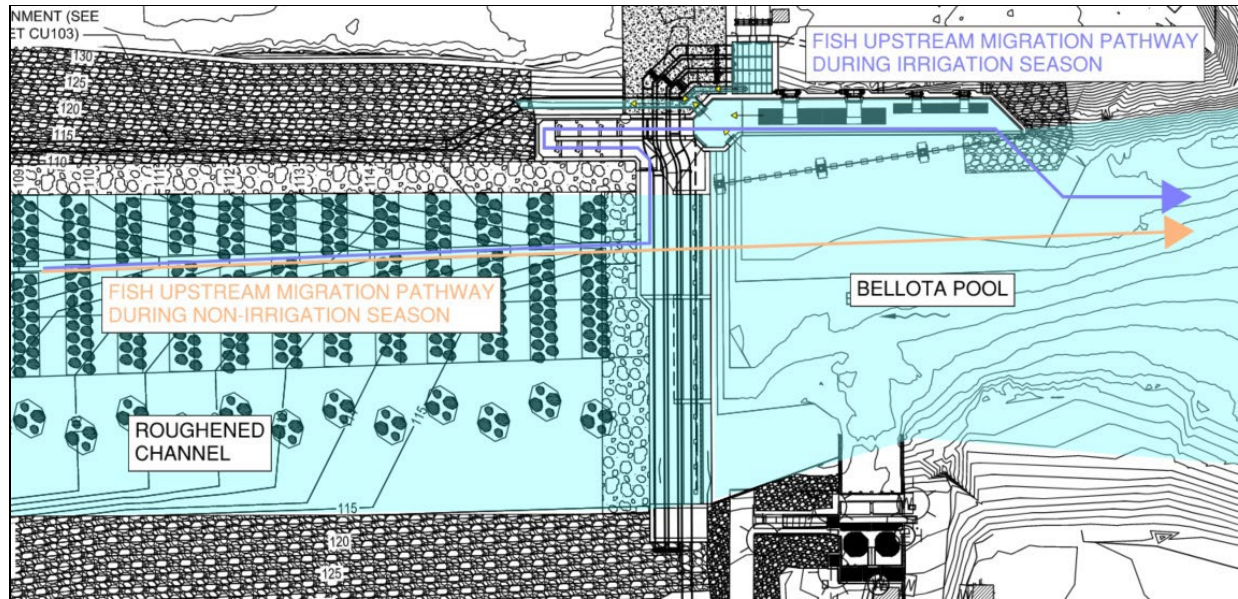
As shown on *Figure 2-5*, the earthen embankment would be located in the Old Calaveras River channel as close to its divergence from the Calaveras River/Mormon Slough as feasible to provide fish exclusion for all flows to the Old Calaveras River. The earthen embankment would consist of a low-permeability core cutoff wall, such as a clay or bentonite soil mix, an earthen embankment across the Old Calaveras River to a minimum of 3 feet above the 100-year base flood elevation, and rock slope protection on both sides of the earthen embankment to protect against erosion.

### **2.8.2 Old Calaveras Conveyance Pipeline**

As shown on *Figure 2-11*, the Calaveras Conveyance pipelines would consist of two 54-inch-diameter RCPs connecting the Distribution Structure to the existing Old Calaveras River channel. During construction, one of the 54-inch-diameter RCP lines would extend to the Bellota Pool to provide Old Calaveras River with current demands. Once the Intake structure is complete, the temporary connection to the Bellota Pool would be terminated and water would then be supplied from the new Distribution Structure. The Calaveras River outlet structure was designed to backwater the diversion flows to create laminar flow passing over the control weir. Flow would be controlled using WSE over this 10-foot-wide weir. The weir would be calibrated for both minimum and maximum flow and control two slide gates at the Distribution Structure. The gates would have three control modes: 1) maintain a desired flow in Calaveras Creek; 2) control a desired water surface in the Distribution Structure; and 3) manually adjust the gate openings to the desired flow.

## **2.9 Fish Passage Improvements**

The Fish Ladder and Roughened-Channel Fishway Project components are described above. As discussed above, during irrigation season upstream fish passage would be provided through dual use of the Fish Ladder and Roughened-Channel Fishway, while during non-irrigation season passage would be provided solely through the roughened channel. These migration pathways are shown on *Figure 2-13*.



**Figure 2-13. Fish Upstream Migration Pathway**

Table 2-2 displays design flow range for when migrating fish would use either the Fish Ladder or Roughened Channel features. As shown, the Fish Ladder would be used during irrigation season when flows range between 20 and 202.3 cfs. During the irrigation and non-irrigation season, the Roughened Channel could be used when flows range between 20 and 1,735 cfs. Thus, the Project design would accommodate fish passage during the full range of flows anticipated at the Project site.

<b>Table 2-2. Fish Ladder and Roughened Channel Design Flows</b>			
<b>Time of Year</b>	<b>Fish Ladder Range of Design Flows (cfs)</b>	<b>Roughened Channel Range of Design Flows (cfs)</b>	<b>Resulting Overall Passage Design Flows (cfs)</b>
Irrigation Season	20 – 202.3	20 – 1,735	20 – 202.3
Non-Irrigation Season	N/A	20 – 1,735	20 – 1,735

## 2.10 Lighting and Illumination

Light-emitting diode (LED) lighting systems would be used for all areas including interior, exterior building, and site lighting. Lighting fixture types would be suitable for the environments where installed and be located (serviceable and accessible) for routine maintenance.

- Indoor Locations: Fixtures would be switched. Emergency lighting would include an emergency battery pack integral with the fixture.
- Exit Signs: Provide LED type and placed inside the facilities per the latest National Fire Protection Association requirements.

- Exterior Locations: Fixtures mounted to exterior building would be photocell controlled. Site lighting would be photocell controlled with bypass switch to allow facility to manually turn off each light pole.

## 2.11 Site Security, Access, and Circulation Improvements

The Project site is currently fenced and would remain fenced to control public access during project construction and operation. As shown in *Figure 2-2*, the Project site has two existing gated access points; the North Entrance via State Route 26 and the East Shelton Road East Entrance via East Shelton Road. These existing gated entrances would be retained and will be modified to improve access.

In addition, two *temporary* construction access points and one new permanent entrance would be constructed as part of the Project. The proposed construction access points would include the South Entrance, accessed via State Route 26, and the East Shelton Road Construction Entrance, accessed via East Shelton Road. The proposed East Shelton Road West Entrance would be a new permanent entrance via East Shelton Road (*Figure 2-2*). While the “temporary” access points would be used to facilitate construction, they would not be used during normal operations, but would be retained as permanent improvements to facilitate future maintenance activities.

Proposed onsite circulation improvements are also shown in *Figure 2-2*. As shown, the North Entrance from SR 26 would serve as the primary site entrance, would provide access to the Control Shop Building and backup generator, and would include a loop turn around. The South Entrance would provide temporary construction access, future maintenance access when necessary, and would connect with the North Entrance Road. A northern spur from the North Entrance Road would provide construction access to Mormon Slough. Circulation improvements on the south side of Mormon Slough would result in a gated entry loop road connecting the Shelton Road East and West Entrances.

## 2.12 Design Criteria

The primary drivers and criteria that govern the Project design are summarized below. For additional detail on all design criteria and standards and references used in the design process, refer to Draft Design Documentation Report sections 4 through 10 and Appendix A-3 Design Criteria Report (contained in Draft EIR Appendix A).

### 2.12.1 Biological Criteria

This section presents a brief summary of biological criteria used in the facility design, including target species, fish migration timing, and fish passage performance.

*Table 2-3* provides a list of target fish species selected to establish fish passage design criteria for the Project based on their known occurrence at the Project site and importance to the recovery of fisheries resources within the Calaveras River system. They are selected based on feedback obtained from NMFS and CDFW and have been identified as most critical for this reach.

Species	Life Stages	
	Upstream Passage	Downstream Passage
Chinook salmon (spring, winter, and fall run*)	Adult/Yearling	Juvenile
Steelhead	Adult/Yearling	Adult/Juvenile
Lamprey	Adult	Juvenile (ammocoetes)

\* Chinook salmon are not likely to use the Calaveras River.

Upstream and downstream movement of adult, sub-adult, and/or juvenile life stages of target fish species may be observed throughout various times of the year.

In summary, any fish passage facility located at the Bellota Weir would accommodate the following:

- Adult salmonid upstream migration from November through May
- Juvenile salmonid downstream migration from November through June
- Adult lamprey upstream migration from April through June

It is not currently established whether or not this facility would require design for the upstream migration of juvenile and resident fish.

## **2.12.2 Facility Criteria**

### **2.12.2.1 Operational Strategy**

The irrigation season begins mid-April and ends mid-October each year. During that period, the new intake and pipe conveyance infrastructure would be operated to meet irrigation demands up to a maximum of 360 cfs throughout a wide range of river and environmental conditions. The Roughened-Channel Fishway would operate year-round to provide fish passage throughout the full range of anticipated river flows where fish migration is anticipated. During non-operational periods, regular maintenance activities would be dutifully accomplished to keep the facility and its elements in working order and ready to perform during the next irrigation season.

### **Irrigation Demand and Seasonality**

Irrigation water demand can vary from year to year, but the New Hogan Reservoir releases have historically averaged about 150 cfs for irrigation demands for the Bellota and Old Calaveras River diversions. As shown in *Table 2-1*, the maximum irrigation diversion flow planned for the Project is 350 cfs, which includes 200 cfs for the Bellota Diversion and 150 cfs for the Old Calaveras River.

### **Minimum Required Operating Water Surface Elevation (WSE)**

The minimum required operating WSEs during irrigation and non-irrigation seasons are 121.44 feet and 115.44 feet NAVD88, respectively. The non-irrigation operating WSE would be used as the minimum design operating WSE in the Mormon Slough and the limiting condition for design of gravity flow hydraulics through the intake and proposed conveyance systems.

#### **2.12.3 Agency-Specific Criteria**

Numerous agency-specific criteria and design guidance are used to inform the design of various Project components. *Table 2-4* provides a summary of the agency-specific criteria used for Project design.

<b>Table 2-4. Agency Specific Criteria</b>	
Federal Emergency Management Agency (FEMA)	Governs work in regulatory floodways and floodplains. This Project will comply with a no-rise certification strategy in collaboration with the San Joaquin County Flood Control Agency.
California State Department of Transportation	Coordination relative to access from State Route 26 for the north bank site construction.
San Joaquin County Public Works	County roadways, repairs, and traffic control will comply with San Joaquin County Standard Plans and Specifications. Traffic control through construction work zones will comply with both the County work zone safety and the Federal Highway Administration Work Zone Management Program ( <a href="https://www.fhwa.dot.gov/workzones">https://www.fhwa.dot.gov/workzones</a> ).
CDFW	Fish protection and passage requirements for numerous Project elements including fish screens, fish bypass, and debris racks.
FEMA	Governs work in regulatory floodways and floodplains. This Project will comply with a no-rise certification strategy in collaboration with the San Joaquin County Flood Control Agency.
NMFS	

#### **2.12.4 Hydraulic Design Criteria**

Hydraulic design criteria and guidelines are uniquely formulated for the following regulatory compliance requirements and Project elements:

- Compliance with FEMA and County floodplain regulations
- Surface water intake
- Sluiceway design
- Roughened-channel, nature-like fishway
- Fish ladder

- Scour evaluation and assessment of potential impacts to existing infrastructure
- Scour and structure settlement countermeasure design

### **2.13 Pile and Sheet Pile Foundation Support**

In response to Project site soil conditions, the proposed weir and fish passage structures will require support from deep foundations piles extending below El. 90 feet, loaded in tension (uplift) and compression. In addition, a sheet pile cutoff wall would be installed just upstream of the weir to provide a seepage cutoff through the permeable granular channel deposits and prevent seepage erosion beneath the weir foundation. Temporary sheet pile walls would also be utilized for dewatering purposes during certain construction phases. The existing north bank of the slough and south bank of the Old Calaveras River channel are over steepened and subject to instability under both static and dynamic loading. The Project Area subsurface consists of loose granular deposits above El. 100 feet with potential for limited liquefaction and seismically induced settlement. These site conditions are addressed by the proposed foundation design which relies on three types of pile construction techniques to overcome soil limitations: pipe piles, sheet piles and stone columns.

Table 2-5 provides a summary of the proposed pile types, their purpose, location, and related statistics. As shown, the foundation design calls for installation of a combined total of 964 pipe piles, sheet piles and stone columns. Pipe piles and sheet piles would be installed using conventional pile driving techniques which involves use of a crane or other apparatus supporting an impact hammer that is dropped on the piles to drive them to a specified depth. Stone column construction involves the placement of rock in a pre-drilled hole followed by tamping with special high energy impact densification equipment until design specifications are achieved. As shown in Table 2-5, a total of 249 pipe piles would be installed at a rate of approximately one pile per hour; 486 sheet piles would be installed at a rate of two minutes per vertical foot (for a total of 562 hours); and 229 stone columns would be installed at a rate of 2 columns per hour. Installation would occur consistent with construction phasing as described in Section 2.14 below.

<b>Table 2-5. Bellota Pile Summary</b>								
<b>Pile Type</b>	<b>Pile Description</b>	<b>Purpose &amp; Location(s)</b>	<b>Total Number</b>	<b>Total Horizontal Length</b>	<b>Total Permanent Vertical Length (feet)</b>	<b>Total Temporary Vertical Length<sup>a</sup> (feet)</b>	<b>Installation Duration</b>	<b>Total Installation Duration (hours)</b>
Pipe Piles	24-inch diameter plugged steel pile with 0.5-inch wall thickness	Substructure support for Intake, Fishway, Weir and both Diversion structures	249 piles	NA	12,500	NA	1.0 pile per hour	249
Sheet Piles	The majority are AZ 14-770 sheet pile walls except for S4 which is a king pile wall (HZ630M-12/AZ18-800).	Seepage control and retaining wall purposes. See plans for locations of Walls S1 thru S5.	486 piles	970 feet	14,200	2,650	2.0 min/vertical foot	562
Stone Columns	24-inch diameter stone column	Support structures sensitive to differential settlement which includes the Bellota and Old Calaveras Conveyance Structures	229 columns <sup>b</sup>	NA	8,800 <sup>b</sup>	NA	2.0 columns per hour	115

<sup>a</sup>Total Temporary Length is additive to Total Permanent Vertical Length for piles that will be cut or removed after a construction phase is complete; this applies only to the sheet piles.

<sup>b</sup>Number shown is for 116 stone columns for the OCR conveyance pipelines that are currently in the design, plus an additional 113 stone columns anticipated to be added at the 100% design phase to support the Bellota conveyance pipelines.

## **2.14 Project Construction**

Project construction could begin as early as spring 2023, upon issuance of all applicable permits and federal, state, and local authorizations.

Construction would occur in five primary phases following a general sequence that would optimize constructability, cost effectiveness, environmental impact, and operational continuity. The construction Phases are organized to provide full, complete elements that can be utilized even if future phases are delayed.

The current phasing strategy could be completed within approximately 3 years but is designed such that construction phases could be delayed several years if necessary. This phased approach provides schedule flexibility to allow time to secure adequate funding between phases if necessary.

While a construction sequence has been identified for each construction phase, certain Project elements may be constructed simultaneously. These are not identified in the discussion below and would be at the contractor's discretion. Sheet pile wall installations, removals, and manipulations should remain as directed or thought through carefully, as in many cases the sheet pile walls are acting as temporary flashboards to provide irrigation water during irrigation season and must be cut following irrigation season to install remaining Project elements and provide fish passage. The proposed construction phasing is presented below.

Prior to any construction phase mobilization of equipment and supplies, the first order of work would include establishment of construction limits and installation of protections (i.e., temporary construction fencing) for any identified onsite Environmentally Sensitive Areas. Following establishment of environmental site controls, construction equipment and supplies would mobilize to the site. Depending on the phase, expected construction equipment could include but is not limited to graders, loaders/backhoes, excavators, vibratory rollers/compactors, pickup trucks, drill rigs, truck mounted crane, concrete delivery trucks, water trucks, hydroseeding trucks and various generators, hand equipment and potentially a temporary construction trailer for onsite contractor administrative functions. Required material deliveries could include, but would not be limited to concrete, rebar, steel, asphalt, aggregate base, lumber and specialized prefabricated equipment such as pumps, screens and electronic control boxes. Construction equipment and materials would be trucked to the Project site as needed and stored in staging areas when not in use. Following the above pre-construction tasks, phased construction would proceed as outlined below.

### **2.14.1 Phase 1A Construction**

Phase 1 construction is comprised of four separate sub phases or sequences referred to as Phase 1A through 1D. Construction of Phase 1A may take place during the non-irrigation season, outside of the in-water work window, if other schedule limitations allow. Fish passage would be unchanged from the existing condition during this sub phase. Construction of Phase 1A would require approximately 4 months and commence as early as fall 2022. Most of the features of work in this phase will be isolated from the river with silt fencing, and by limiting the work to occur landward of the waterside hinge point to the waterways.



The following would be completed during construction of Phase 1A as shown on *Figure 2-14A*.

- Install landside erosion and sediment controls, including silt fencing and stabilized construction entrances, and placing concrete washouts.
- Modify existing fencing, gates, and driveways and construct new entrances adjacent to State Route 26 and East Shelton Road.
- Identify existing features to be protected in place and demarcate them to be protected during construction as appropriate.
- Demolish the existing building in the construction staging area on the north side of the Project.
- Prepare and secure the contractor staging areas on the north and south sides of the Project.
- Construct the temporary roads for construction vehicle access, including the North Bank Construction Road and the South Bank Construction Road. These temporary roads will be left in place after construction.
- Construct the permanent access roads, including the Permanent North Bank Road and the Permanent South Bank Road. These roads will be restored for permanent access prior to closeout of construction.

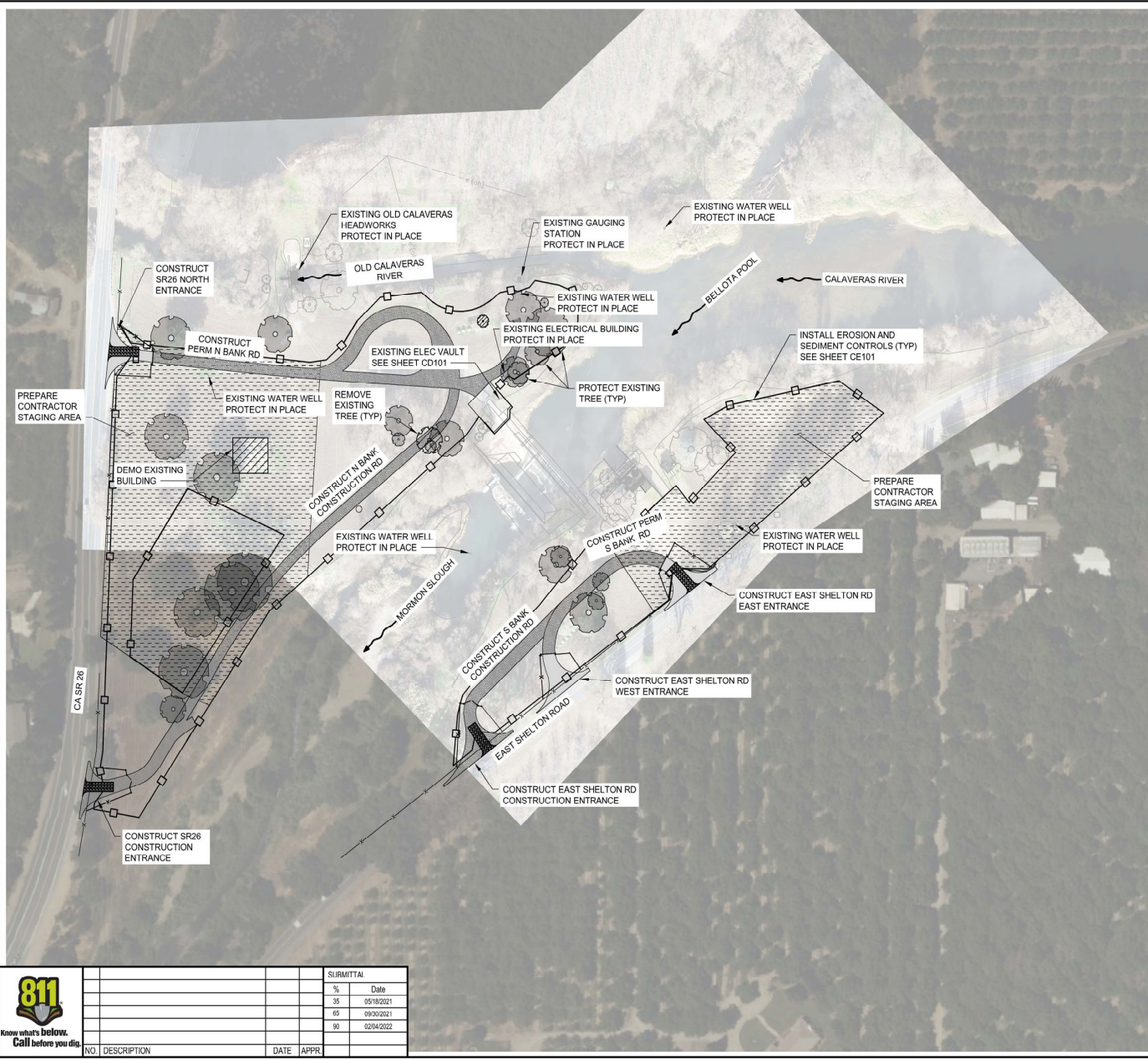
#### **2.14.2 Phase 1B Through 1D Construction**

Construction of Phases 1B through 1D would occur during the irrigation season (mid- April to mid-October), during the in-water work window (mid-June to late October).

Stream diversion would be provided using the constructed 54-inch sluiceway and existing 36-inch bypass in the existing intake. Temporary fish passage would not be provided during this time because according to the Habitat Conservation Plan (HCP), steelhead and fall-run Chinook salmon (known to opportunistically use the river) are not present; the document shows no adult migration or juvenile outmigration occurring from June to October (NOAA 2020). This is the same case for winter, spring, and late-fall run Chinook, though each of these are considered extirpated from the area and not likely to use the Calaveras River. Therefore, construction between April and October would not affect these fish.

Construction of this sequence would require up to 8 months and commence as early as spring 2023, on issuance of applicable permits and federal, state, and local authorizations and availability of funding.

FILE SPEC: P:\4132\_SEVD\_Bellota\_Weir\_Fish\_Ladder\_Repl\0010\_Fish\_Ladder\_Repl\020\_CDD\_Sheets\CS106.dwg  
 PLOT DATE: Fri, 02/04/2022 11:22:28am



- GENERAL NOTES:**
1. ALL CONSTRUCTION ACTIVITIES INCLUDING SITE PREPARATION AND CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  2. NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DETAILED SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NIPS, USFWS, AND CDFW.
  3. THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  4. THE ITEMS SHOWN IN SEQUENCE 1A MAY BE PERFORMED OUTSIDE OF IRRIGATION SEASON WHERE ACTIVITIES DO NOT OCCUR WITHIN THE RIVER, AND IN ACCORDANCE WITH ALL PROJECT PERMITS. ACTIVITIES WITHIN THE RIVER MUST BE PERFORMED DURING IRRIGATION SEASON AND PER PERMITS WITHIN THE RIVER.
  5. IRRIGATION FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER.



**STOCKTON EAST WATER DISTRICT**  
 8767 EAST MAIN ST.  
 STOCKTON, CA

BELLOTA WEIR MODIFICATIONS PROJECT  
 24850 EAST STATE ROUTE 28, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA

**CONSTRUCTION SEQUENCE 1A**

90% SUBMITTAL

DESIGN BY	ERS
DRAWN BY	PX
CHECK BY	JDK
SUBMITTED BY	BOR
HORIZONTAL DATUM	CCS83, ZONE 3
VERTICAL DATUM	NAVD88
DRAWING SCALE	
HORIZ.	1" = 80'
ORIGINAL DRAWING SCALE	0 1/2" 1"

DATE	02/04/2022
SHEET IDENTIFICATION	<b>CS106</b>
SHEET	20 OF XX
KSN PROJECT FILE NO.	2432-0010



SUBMITTAL	
NO.	DATE
35	05/18/2021
65	09/30/2021
90	02/04/2022

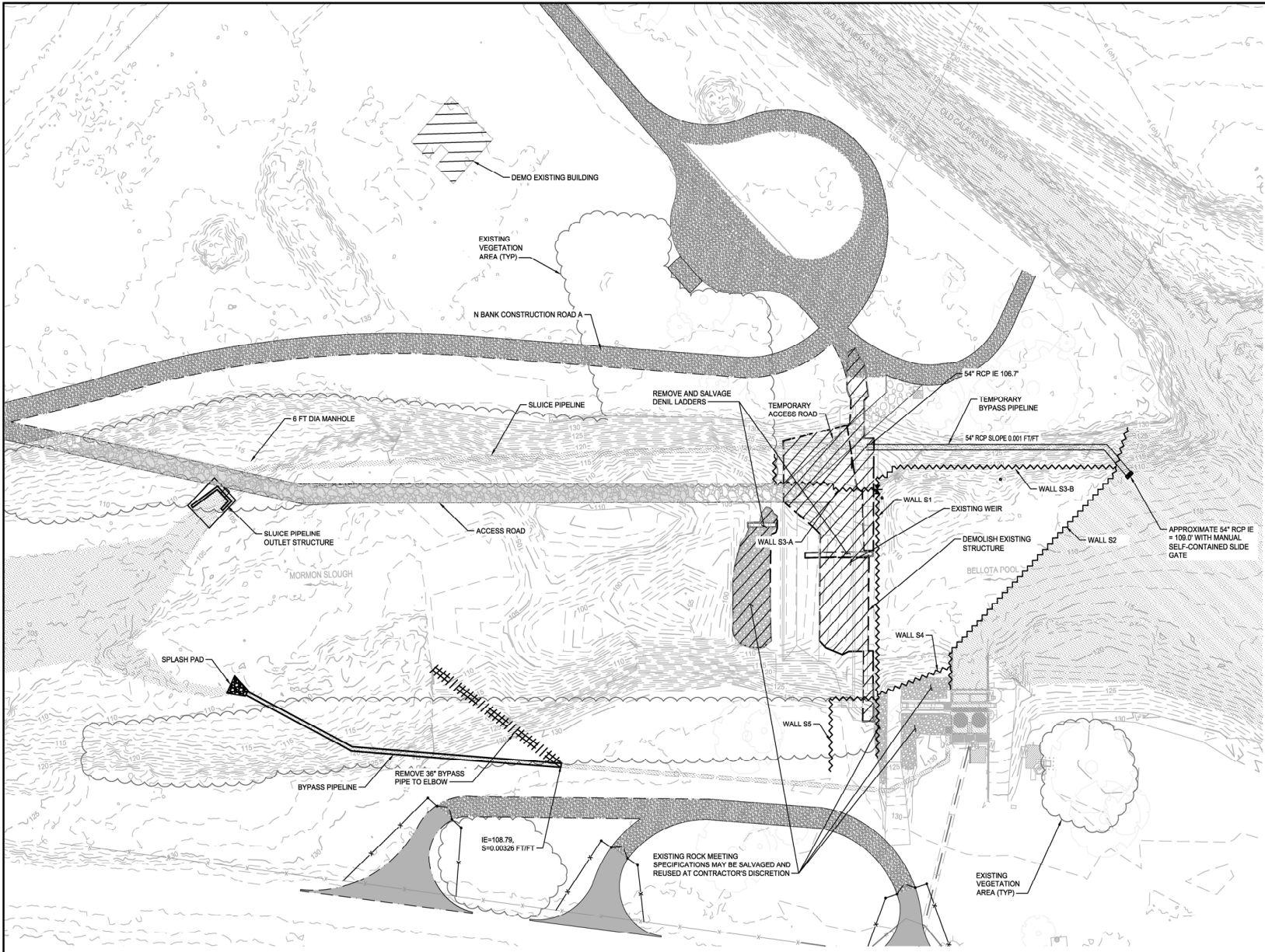


PROJECT ENGINEER  
**PRELIMINARY NOT FOR CONSTRUCTION**



**Figure 2-14A. Phase 1A Improvements**  
 2019-225 Bellota Fish Screen and Passage

FILE: SPEC CA\mexico\ksp\west01\20060946\CS107.dwg  
 PLOT DATE: Jan 21, 2022 1:49pm



**CONSTRUCTION SEQUENCE 1B**  
 SCALE: 1" = 40'

- GENERAL NOTES:**
- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  - NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  - THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  - THE ITEMS SHOWN IN SEQUENCE 1 ARE PERFORMED DURING IRRIGATION SEASON AND PER PERMITS WITHIN THE RIVER.
  - IRRIGATION FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER.
  - EMERGENCY BYPASS FLOW WILL PASS THROUGH THE 54-INCH SLUCE PIPELINE OR THE EXISTING 36-INCH BYPASS.
  - STOCKPILE MATERIAL FROM ROUGHENED CHANNEL EXCAVATION FOR USE IN SEQUENCE 5.
  - AFTER SEQUENCE 1 IS COMPLETED, REMOVE SHEET PILE WALLS S2 AND CUT SHEET PILE WALL S1 TO ALLOW FISH PASSAGE.
  - SCHEDULE OF SHEET PILE TIP, FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET SBXX.

1000 Howard Blvd., Suite 202  
 1714 Perryville Avenue, Suite 100  
 20000 Wilshire Blvd., Suite 1000  
 Los Angeles, CA 90024

KSN  
 CONSULTING

HDR  
 www.hdr.com

STOCKTON EAST  
 WATER DISTRICT  
 8767 EAST MAIN ST.  
 STOCKTON, CA

IRM

BELLOTA WEIR MODIFICATIONS PROJECT  
 24450 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA

CARE OF WATER AND CONSTRUCTION  
 SEQUENCE 1B  
 90% SUBMITTAL

DESIGN BY: RIA  
 DRAWN BY: JLC  
 CHECK BY: MJH  
 SUBMITTED BY:

HORIZONTAL DATUM: CCS83, ZONE 3  
 VERTICAL DATUM: NAVD88

DRAWING SCALE: VERT: N/A  
 HORIZ: 1" = 40'  
 ORIGINAL DRAWING SCALE: 0 1/2 1"

DATE: 10/01/21  
 SHEET IDENTIFICATION: CS107  
 SHEET 13 OF XX  
 KSN PROJECT FILE NO: 2432-0010

 Know what's below. Call before you dig.							
	SURMITTAL						
		%	Date				
		35	05/18/2021				
	65	10/01/2021					
NO.	DESCRIPTION	DATE	APPR.				

NORTH ORIENTATION

PROJECT ENGINEER  
 PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

Figure 2-14B. Phase 1B Improvements

2019-225 Bellota Fish Screen and Passage

### 2.14.2.1 Phase 1B

The following would be completed during construction Phase 1B as shown *Figure 2-14B*. Phase 1B Improvements.

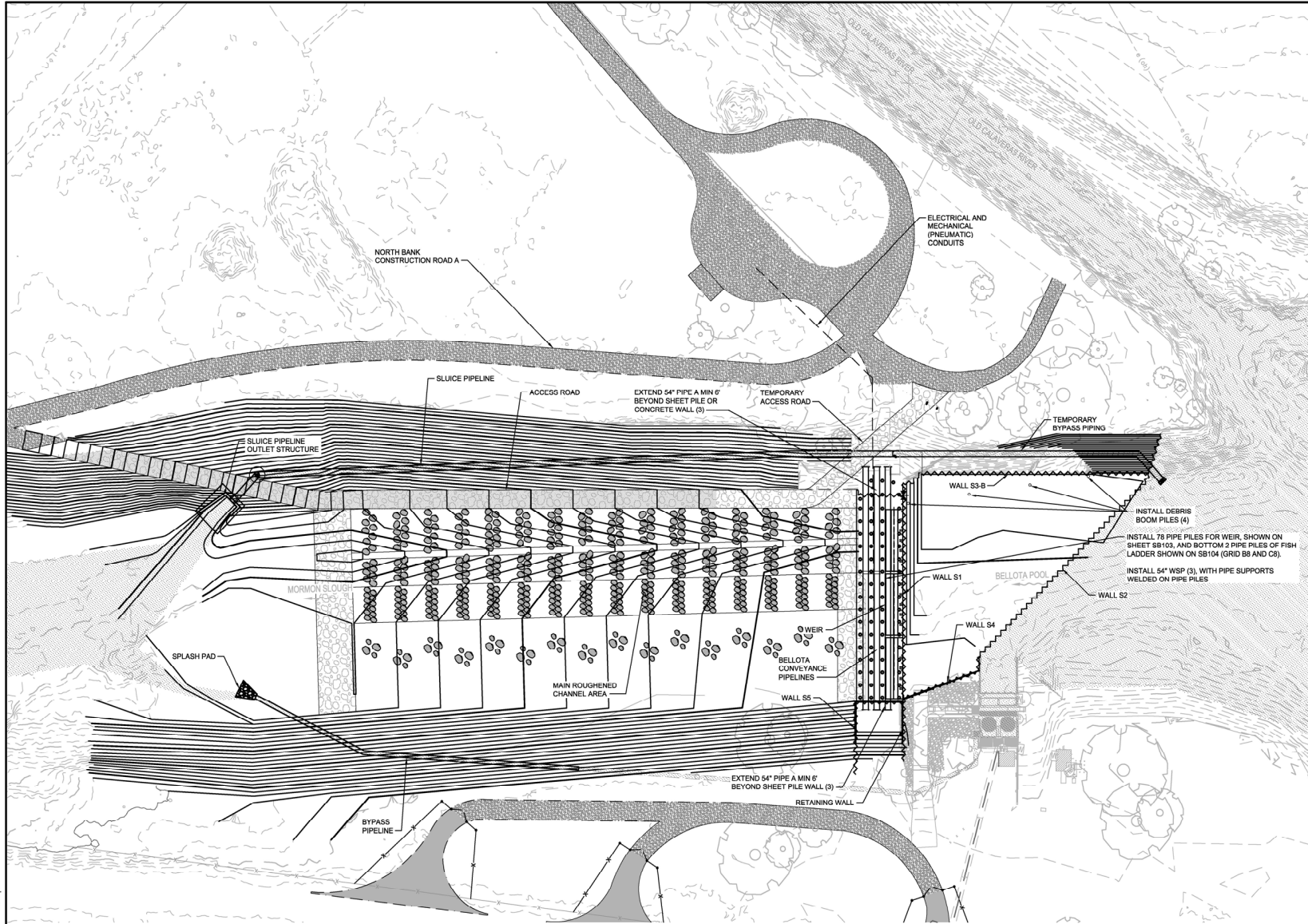
- Extend the existing 36-inch water bypass system downstream of the roughened channel and confirm bypass is operational to accommodate the passage of flow during construction. A Rock Slope Protection (RSP) apron would be constructed for energy dissipation at the outlet.
- Construct access road along right bank adjacent to the roughened channel including the temporary access road adjacent to the existing north ramp of the weir.
- Install sheet pile wall S3-B from the downstream end of the future new fish ladder upstream to the tie-in to right bank EL 127 feet upstream of the future new intake structure.
- Install the new 54-inch RCP sluice pipeline extending through sheet pile wall S3-B with water control gate mounted to wall for passage of flow during construction. Best management practices would be utilized at the inlet and the associated RSP apron would be constructed at the outlet, located downstream of the access road.
- Install sheet pile walls S2, S4, and S5 to the tip elevations as shown on the drawings and finish top at EL 127 feet. This should occur prior to the irrigation season so that the WSE in the Bellota Pool provides the appropriate irrigation season flows to the WTP.
- Raise Bellota Pool to EL 121.44 feet.
- Regulate bypass flows using both bypass pipelines to maintain pool EL 121.44 feet.
- Install temporary dewatering sumps to control river seepage in construction work areas.
- Remove and salvage two Denil fish ladders.
- Demolish existing weir.
- Remove existing riprap and salvage any rock meeting project specifications.

### 2.14.2.2 Phase 1C

The following would be completed during construction Phase 1C as shown *Figure 2-14C*. Phase 1C Improvements.

- Grade new weir forebay to finish elevations as shown on the drawings.
- Excavate the riverbed to approximate EL 104 feet across the entire river channel
- within the footprint of the weir to accommodate the three 54-inch WSP Bellota WSPs.

**Install sheet pile wall S1 to the tip elevations as shown on the sheet CS108 with finish top EL 115.5 feet.**



**CONSTRUCTION SEQUENCE 1C**  
SCALE: 1" = 40'

- GENERAL NOTES:**
- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  - NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DETAILED SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  - THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  - THE ITEMS SHOWN IN SEQUENCE 1 ARE PERFORMED DURING IRRIGATION SEASON AND PER PERMITS WITHIN THE RIVER.
  - IRRIGATION FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER.
  - EMERGENCY BYPASS FLOW WILL PASS THROUGH THE 54-INCH SLUICE PIPELINE OR THE EXISTING 36-INCH BYPASS.
  - STOCKPILE MATERIAL FROM ROUGHENED CHANNEL EXCAVATION FOR USE IN SEQUENCE 5.
  - AFTER SEQUENCE 1 IS COMPLETED, REMOVE SHEET PILE WALLS S2 AND CUT SHEET PILE WALL S1 TO ALLOW FISH PASSAGE.
  - SCHEDULE OF SHEET PILE TYP, FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET SB503.



**STOCKTON EAST WATER DISTRICT**  
8767 EAST MAIN ST.  
STOCKTON CA



BELLOTA WEIR MODIFICATIONS PROJECT  
2430 EAST STATE ROAD, LIVERMORE, CA 94526  
SAN JOAQUIN COUNTY, CA  
**CARE OF WATER AND CONSTRUCTION SEQUENCE 1C**  
90% SUBMITTAL

DESIGN BY: RIA  
DRAWN BY: JLC  
CHECK BY: MJH  
SUBMITTED BY:  
HORIZONTAL DATUM: CGS83, ZONE 3  
VERTICAL DATUM: NAVD88  
DRAWING SCALE: VERT: N/A, HORZ: 1" = 40'  
ORIGINAL DRAWING SCALE: 0 1/2" = 1"

DATE: 10/01/21  
SHEET IDENTIFICATION: **CS108**  
SHEET 13 OF XX  
KSN PROJECT FILE NO. 2432-0010

FILE: SPEC: C:\pwworking\king\west1\242050946\CS108.dwg  
PLOT DATE: Jun 21, 2022 - 2:15pm

<b>811</b> Know what's below. Call before you dig.	NO. DESCRIPTION		DATE	APPR.
	SURMITTAL		%	Date
			35	05/10/2021
			65	10/01/2021

  
 PROJECT ENGINEER  
 PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

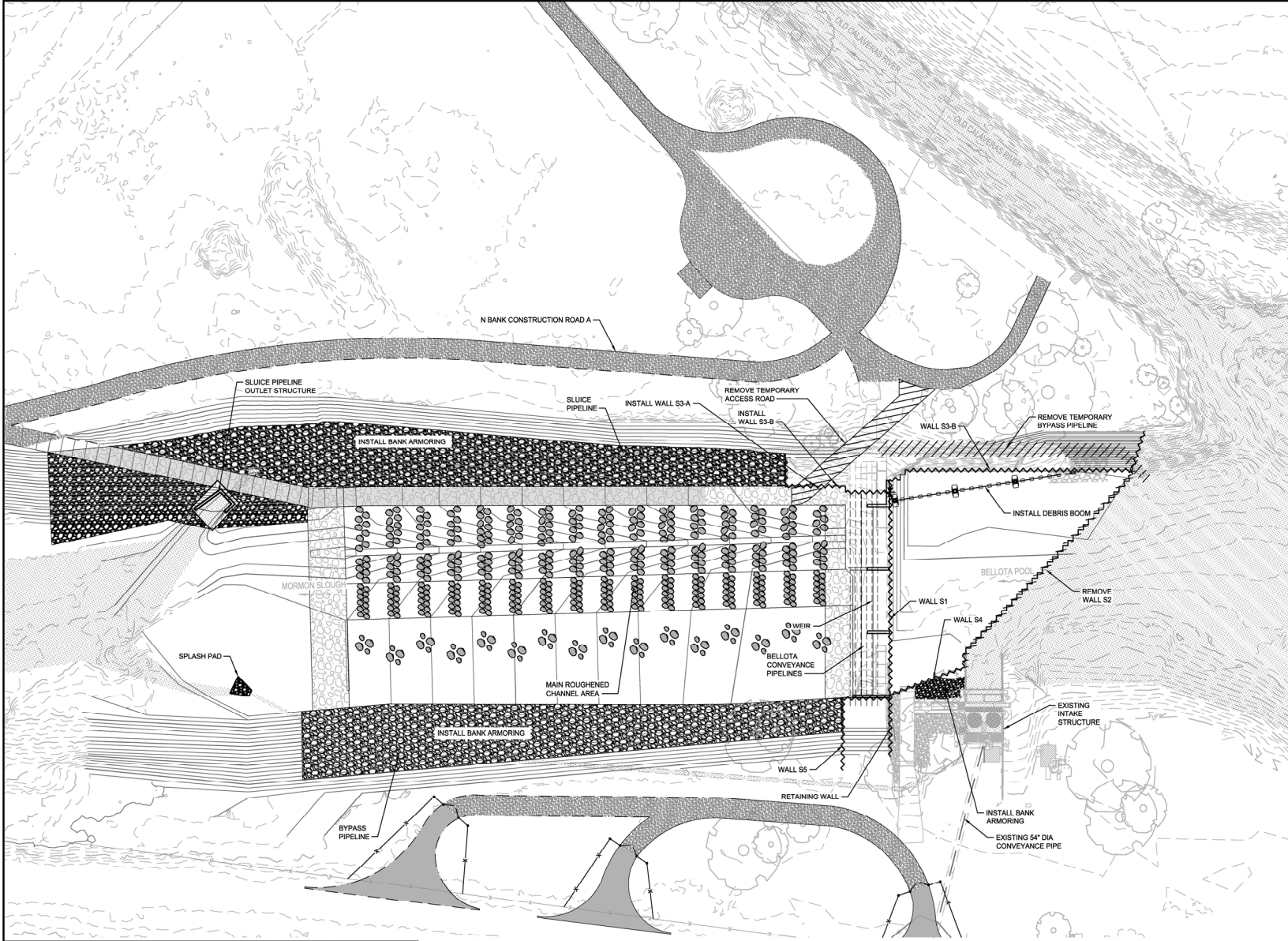
- Install the 4 debris boom dolphin piles, and 78 pipe piles for new weir footing, and 2 pipe piles for a small portion of fish ladder footing (as shown on construction plan set sheets CS108 and SB104).
- Install cross bracing on pipe piles to support the three 54-inch WSPs at the specified elevations across the river channel.
- Install three 54-inch pipelines with blind flange caps that extend beyond weir footprint.
- Excavate roughened channel to design elevations (shown on sheet RI201).
- Stockpile excavated spoils for future use.
- Backfill new weir footprint with flowable fill around the three 54-inch pipelines to EL 109.5 feet.
- Install weir slab, columns forms, and rebar including portion of fish ladder wall and slab.
- Install necessary mechanical conveyance lines for Obermeyer weir gate from mechanical building across weir structure.
- Pour weir slab, columns, and walls.
- Strip all formworks.
- Backfill roughened channel with specified riverbed materials.
- Finish-grade roughened channel and associated weir boulder bands.

### **2.14.2.3 Phase 1D**

The following would be completed during construction Phase 1D as shown Figure 2-14D. Phase 1D Improvements.

- Install debris boom components.
- Remove temporary portion of 54-inch sluice pipe and install per final 54-inch pipe alignment. Mount temporary slide gate on sheet pile wall S-3B.
- Remove temporary access road (east ramp).
- Install sheet pile wall S-3A.
- Install riverbank armoring.
- Lower Bellota Pool to EL 115.44 feet.
- Remove in-river dewatering systems.
- Remove sheet pile wall S2.

FILE: SPEC: C:\pwworking\west1\25060946\03109.dwg  
 PLOT DATE: Jan 21, 2022 - 3:48pm



**CONSTRUCTION SEQUENCE 1D**  
 SCALE: 1" = 40'

SUBMITTAL	
%	Date
35	05/18/2021
65	10/01/2021

- GENERAL NOTES:**
- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  - NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  - THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  - THE ITEMS SHOWN IN SEQUENCE 1 ARE PERFORMED DURING IRRIGATION SEASON AND PER PERMITS WITHIN THE RIVER.
  - IRRIGATION FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER.
  - EMERGENCY BYPASS FLOW WILL PASS THROUGH THE 54-INCH SLUICE PIPELINE OR THE EXISTING 36-INCH BYPASS.
  - STOCKPILE MATERIAL FROM ROUGHENED CHANNEL EXCAVATION FOR USE IN SEQUENCE 5.
  - AFTER SEQUENCE 1 IS COMPLETED, REMOVE SHEET PILE WALLS S2 AND CUT SHEET PILE WALL S1 TO ALLOW FISH PASSAGE.
  - SCHEDULE OF SHEET PILE TIP, FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET SB803.



**STOCKTON EAST WATER DISTRICT**  
 970 EAST MAIN ST.  
 STOCKTON CA



BELLOTA WEIR MODIFICATIONS PROJECT  
 24350 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA  
**CARE OF WATER AND CONSTRUCTION SEQUENCE 1D**  
 90% SUBMITTAL

DESIGN BY: RJA  
 DRAWN BY: JLC  
 CHECK BY: MJH  
 SUBMITTED BY:  
 HORIZONTAL DATUM: CCS83, ZONE 3  
 VERTICAL DATUM: NAVD88  
 DRAWING SCALE: VERT: N/A, HORZ: 1" = 40'  
 ORIGINAL DRAWING SCALE: 0 1/2" 1"



Know what's below.  
 Call before you dig.

NO.	DESCRIPTION	DATE	APPR.

**PROJECT ENGINEER**  
 PRELIMINARY NOT FOR CONSTRUCTION

**CS109**  
 SHEET 13 OF XX  
 KSN PROJECT FILE NO. 2432-0010

DATE: 10/01/21  
 SHEET IDENTIFICATION

**811**  
 NORTH ORIENTATION

**Figure 2-14D. Phase 1D Improvements**  
 2019-225 Bellota Fish Screen and Passage

### 2.14.3 Phase 2 Construction

Construction of Phase 2 would occur during the non-irrigation season, outside of the in-water work window. Fish passage would be provided using the roughened channel. Construction of this phase would require approximately 6 months and commence as early as fall 2023. Most of the work features in this phase would be isolated from the river with sheet pile walls S-3A and S-3B.

The following would be completed during Phase 2 construction as shown *Figure 2-15*.

- Install dewatering system to control potential seepage flows from the river and high groundwater.
- Install the remainder of the Bellota conveyance 54-inch pipelines on the north bank to the water distribution structure.
- Construct the distribution structure.
- Complete construction of the concrete fish ladder structure.
- Connect the sluice pipeline into the concrete fish ladder forebay structure.
- Construct temporary fish ladder exit and temporary wall in the fish ladder structure to provide fish passage during the next irrigation season.
- Demolish existing buildings on the site.
- Complete control and shop building including all associated equipment and controls.
- All electrical work would be complete after this phase.

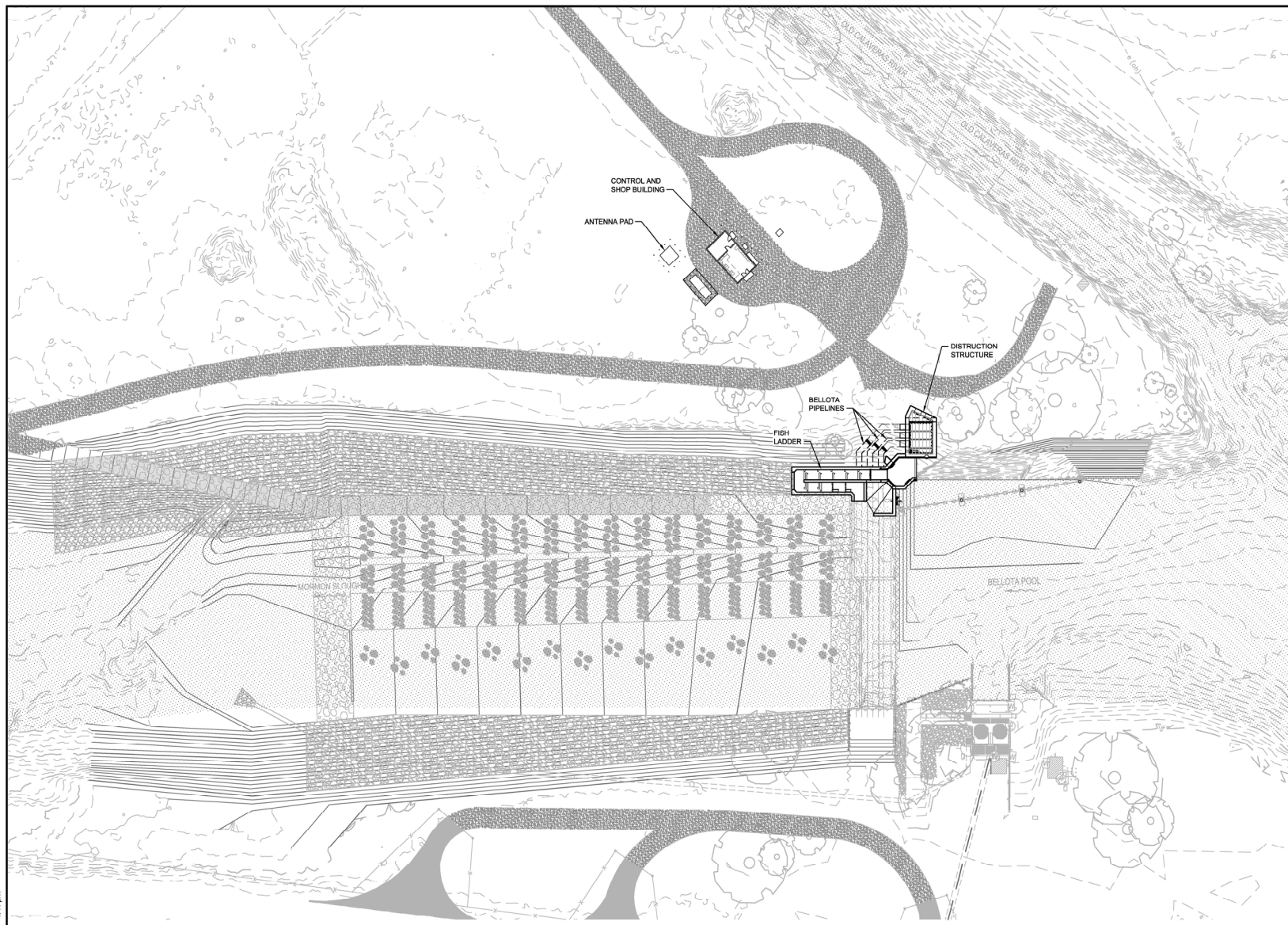
### 2.14.4 Phase 3 Construction

Phase 3 construction would take place during the irrigation season, during the in-water work window. Stream diversion would be provided through the existing 36-inch bypass and if necessary, the newly constructed 54-inch diameter sluiceway. Fish passage would be provided using the roughened channel and fish ladder, with a temporary exit. Construction of this phase would require approximately 6 months and commence as early as spring 2024. The following would be completed during Phase 3 construction as shown *Figure 2-16*.

- Erect removable Bellota bulkhead piers and stoplogs across entire weir.
- Construct temporary coffer dam at future Calaveras outlet structure to isolate the Old Calaveras conveyance pipeline installation.
- Raise the Bellota Pool to EL 121.44 feet prior to the beginning of irrigation season so that the WSE in the Bellota Pool provides the appropriate irrigation season flows to the WTP.
- Use the 36-inch existing bypass pipe and fish ladder to provide bypass flows to the Mormon Slough.
- Install new Obermeyer weirs and associated equipment.



FILE: SPEC C:\pwworking\west1\25050946\CS110.dwg  
 PLOT DATE: Jan 21, 2022 4:43 pm



- GENERAL NOTES:**
- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  - NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  - THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  - THE ITEMS SHOWN IN SEQUENCE 2 ARE PERFORMED OUTSIDE OF IRRIGATION SEASON.
  - FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER THROUGH THE OLD CALAVERAS BYPASS PIPELINE.
  - FISH PASSAGE IS MAINTAINED THROUGH USE OF THE ROUGHENED CHANNEL.
  - ALL ELECTRICAL COMPONENTS WILL BE COMPLETED DURING THIS SEQUENCE.
  - AFTER SEQUENCE 2 IS COMPLETED, CUT SHEET PILE WALL S3-A TO FINAL ELEVATION.
  - SCHEDULE OF SHEET PILE TIP, FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET SB503.

**KJELDOSEN SINNOCK NEUDECK**  
 CIVIL ENGINEERS, LAND SURVEYORS  
 1115 N. G ST. STOCKTON, CA 95210  
 (209) 925-0081

**HDR**  
 www.hdr.com

**STOCKTON EAST WATER DISTRICT**  
 8747 EAST MAIN ST.  
 STOCKTON, CA



BELLOTA WEIR MODIFICATIONS PROJECT  
 24350 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA  
**CARE OF WATER AND CONSTRUCTION SEQUENCE 2**  
 90% SUBMITTAL

DESIGN BY: RIA  
 DRAWN BY: JLC  
 CHECK BY: MUH  
 SUBMITTED BY:  
 HORIZONTAL DATUM: CCS83, ZONE 3  
 VERTICAL DATUM: NAVD83  
 DRAWING SCALE: VERT: N/A  
 HORZ: 1" = 40'  
 ORIGINAL DRAWING SCALE:  
 0 1/2 1"

DATE: 10/01/21  
 SHEET IDENTIFICATION: **CS110**  
 SHEET 13 OF XX  
 KSN PROJECT FILE NO. 2432-0010

**CONSTRUCTION SEQUENCE 2**  
 SCALE: 1" = 40'

NORTH ORIENTATION  
 PROJECT ENGINEER  
 PRELIMINARY NOT FOR CONSTRUCTION



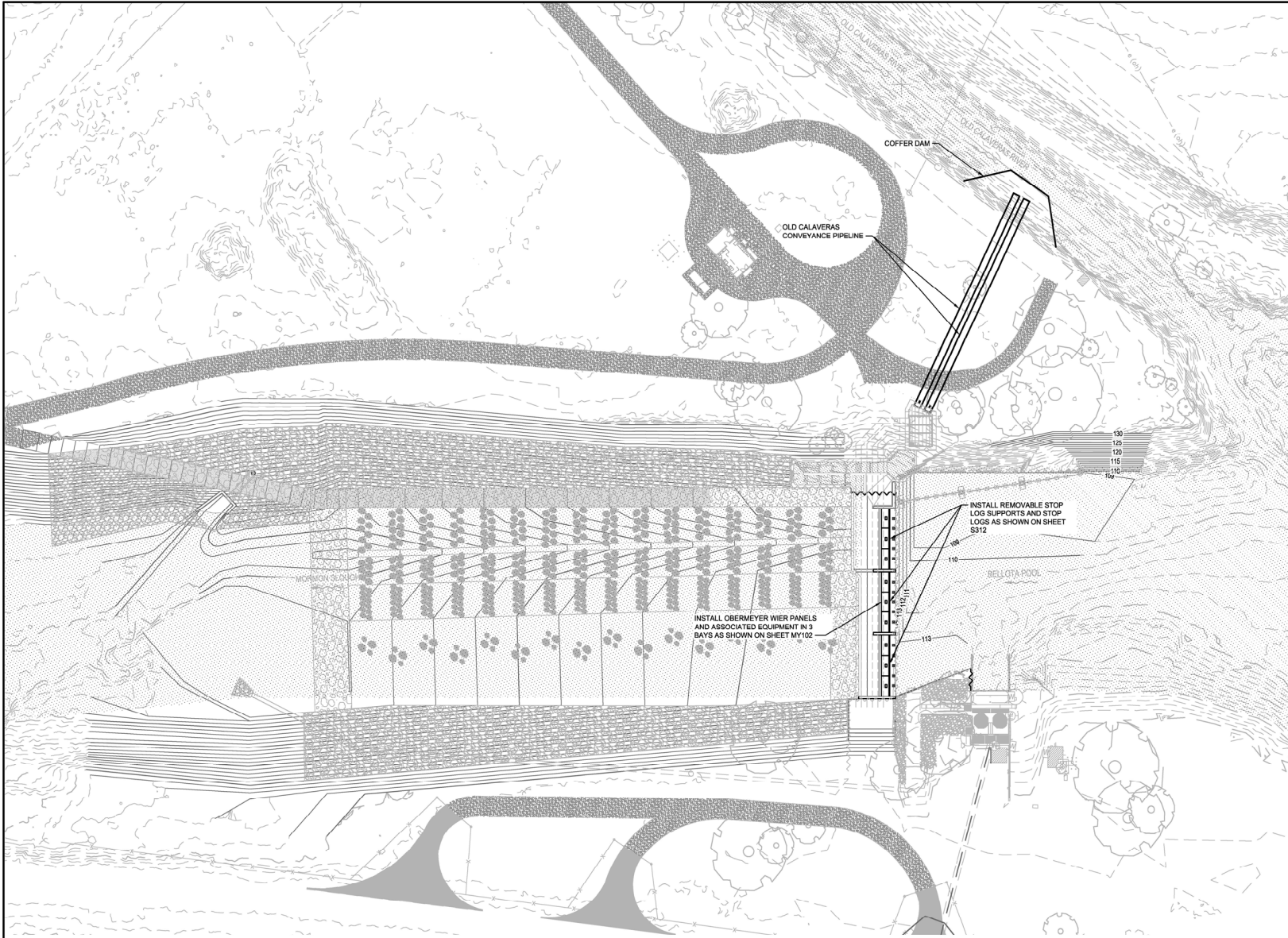
Know what's below.  
 Call before you dig.

NO.		DESCRIPTION	DATE	APPR.
SUBMITTAL				
%	Date			
35	05/18/2021			
65	10/01/2021			



**ECORP Consulting, Inc.**  
 ENVIRONMENTAL CONSULTANTS

**Figure 2-15. Phase 2 Improvements**  
 2019-225 Bellota Fish Screen and Passage



- GENERAL NOTES:**
1. CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  2. NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  3. THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  4. THE ITEMS SHOWN IN SEQUENCE 2 ARE PERFORMED OUTSIDE OF IRRIGATION SEASON.
  5. FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER THROUGH THE OLD CALAVERAS BYPASS PIPELINE.
  6. FISH PASSAGE IS MAINTAINED THROUGH USE OF THE ROUGHENED CHANNEL.
  7. ALL ELECTRICAL COMPONENTS WILL BE COMPLETED DURING THIS SEQUENCE.
  8. AFTER SEQUENCE 2 IS COMPLETED, CUT SHEET PILE WALL S3-A TO FINAL ELEVATION.
  9. SCHEDULE OF SHEET PILE TIP, FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET S8503.

**KJELDSEN SINNOCK NEUDECK**  
 CIVIL ENGINEERS AND ARCHITECTS  
 1115 Perry Avenue, 1000 Wood Blvd, Suite 202  
 Redwood City, CA 94063  
 (650) 962-1000

**FDR**  
 STOCKTON EAST WATER DISTRICT  
 8767 EAST MAIN ST.  
 STOCKTON, CA

**STOCKTON EAST WATER DISTRICT**  
 8767 EAST MAIN ST.  
 STOCKTON, CA

**RM**

**BELLOTA WEIR MODIFICATIONS PROJECT**  
 24350 EAST STATE ROUTE 99, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA

**CARE OF WATER AND CONSTRUCTION SEQUENCE 3**  
 90% SUBMITTAL

DESIGN BY	RIA
DRAWN BY	JLC
CHECK BY	MJH
SUBMITTED BY	
HORIZONTAL DATUM	CCS83, ZONE 3
VERTICAL DATUM	NAVD83
DRAWING SCALE	VERT: N/A
	HORZ: 1" = 40'
ORIGINAL DRAWING SCALE	0 1/2" 1"

PROJECT ENGINEER

PRELIMINARY NOT FOR CONSTRUCTION

DATE: 10/01/21  
 SHEET IDENTIFICATION: **CS111**  
 SHEET 13 OF XX  
 KSN PROJECT FILE NO. 2432-0010

FILE: C:\pwworking\vector\24320010.dwg  
 PLOT DATE: 10/1/21 10:22 AM  
 PLOT BY: 3038pm

 <b>811</b> Know what's below. Call before you dig.						
	<b>CONSTRUCTION SEQUENCE 3</b>					
	SCALE: 1" = 40'					
	SUBMITTAL					
	%	Date				
	35	08/18/2021				
	60	10/01/2021				
NO.	DESCRIPTION	DATE	APPR.			

**Figure 2-16. Phase 3 Improvements**  
 2019-225 Bellota Fish Screen and Passage

- Close 36-inch bypass flow and protect inlet/outlet for mothballing system.
- Close fish ladder operations.
- Remove removable bulkhead piers and stoplogs coincident with the end of the irrigation season.

#### **2.14.5 Phase 4 Construction**

Phase 4 construction would occur during the non-irrigation season, outside of the in- water work window. Fish passage would be provided using the roughened channel.

Construction of this sequence would require approximately 6 months and commence as early as fall 2024. The following would be completed during Phase 4 construction as shown *Figure 2-17*.

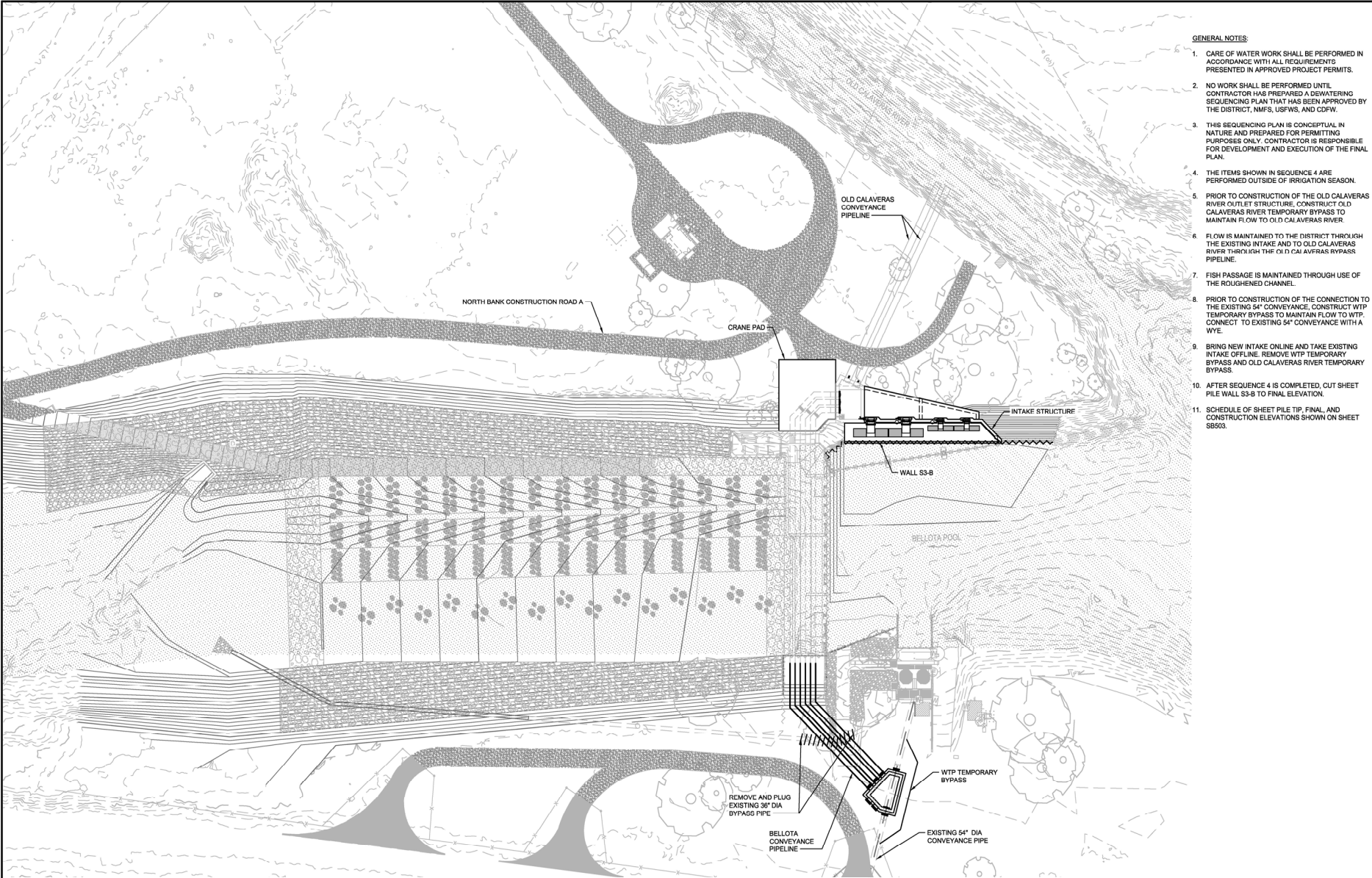
- Construct the necessary dewatering system to control both river and groundwater seepage.
- Install the intake structure, connecting it to the previously constructed fish ladder and distribution structure.
- Install dual RCP 54-inch Old Calaveras conveyance pipelines from new intake structure to the Old Calaveras River.
- Install concrete crane pad.
- Install pumping systems and complete startup and testing of various equipment.
- Remove/abandon portion of the 36-inch bypass where in conflict with the Bellota 54-inch WSP conveyance pipelines.
- Install the three 54-inch WSPs from the weir to the south side diversion structure.
- Complete 54-inch RCP main line connection and extension to the new 54-inch steel pipe.
- Cut sheet pile wall S3 down to final elevation as shown on sheet SB502, Detail 1.
- Finish site grading and final features above ordinary high water.

#### **2.14.6 Phase 5 Construction**

Phase 5 construction would occur during the irrigation season, during the in-water work window. No stream diversion would be needed. The work would require approximately 4 months and commence as early as spring 2025. The following would be completed during Phase 5 construction as shown *Figure 2-18*. Phase 5 Improvements.

- Install temporary coffer dams on either side of the earthen fill and in front of bank armoring adjacent to the new intake.
- Construct the necessary dewatering system to control both river and groundwater seepage.
- Construct temporary water supply system utilizing the new Calaveras 54-inch conveyance pipelines to Old Calaveras River.

FILE SPEC: C:\pwworking\wnt01\2006046\CS112.dwg  
 PLOT DATE: Jan 21, 2022 - 4:08pm



- GENERAL NOTES:**
- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
  - NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
  - THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
  - THE ITEMS SHOWN IN SEQUENCE 4 ARE PERFORMED OUTSIDE OF IRRIGATION SEASON.
  - PRIOR TO CONSTRUCTION OF THE OLD CALAVERAS RIVER OUTLET STRUCTURE, CONSTRUCT OLD CALAVERAS RIVER TEMPORARY BYPASS TO MAINTAIN FLOW TO OLD CALAVERAS RIVER.
  - FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER THROUGH THE OLD CALAVERAS BYPASS PIPELINE.
  - FISH PASSAGE IS MAINTAINED THROUGH USE OF THE ROUGHENED CHANNEL.
  - PRIOR TO CONSTRUCTION OF THE CONNECTION TO THE EXISTING 54" CONVEYANCE, CONSTRUCT WTP TEMPORARY BYPASS TO MAINTAIN FLOW TO WTP. CONNECT TO EXISTING 54" CONVEYANCE WITH A WYE.
  - BRING NEW INTAKE ONLINE AND TAKE EXISTING INTAKE OFFLINE. REMOVE WTP TEMPORARY BYPASS AND OLD CALAVERAS RIVER TEMPORARY BYPASS.
  - AFTER SEQUENCE 4 IS COMPLETED, CUT SHEET PILE WALL S3-B TO FINAL ELEVATION.
  - SCHEDULE OF SHEET PILE TIP FINAL, AND CONSTRUCTION ELEVATIONS SHOWN ON SHEET SB503.

**CONSTRUCTION SEQUENCE 4**  
 SCALE: 1" = 40'

811		SURMITTAL	
NO.	DESCRIPTION	%	Date
		35	05/18/2021
		65	10/01/2021

Know what's below.  
 Call before you dig.

**PROJECT ENGINEER**  
 PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

**811**  
 Know what's below.  
 Call before you dig.

**811**  
 Know what's below.  
 Call before you dig.

**KJELSDEN SINNOCK NEUDECK & ASSOCIATES, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 1114 Henry Avenue  
 Stockton, CA 95210  
 (209) 943-2000

**KSN**  
 F.P.C.

**FOR**  
 www.ford.com

**STOCKTON EAST WATER DISTRICT**  
 8767 EAST MAIN ST.  
 STOCKTON CA

**STOCKTON EAST WATER DISTRICT PROJECT**  
 24350 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA

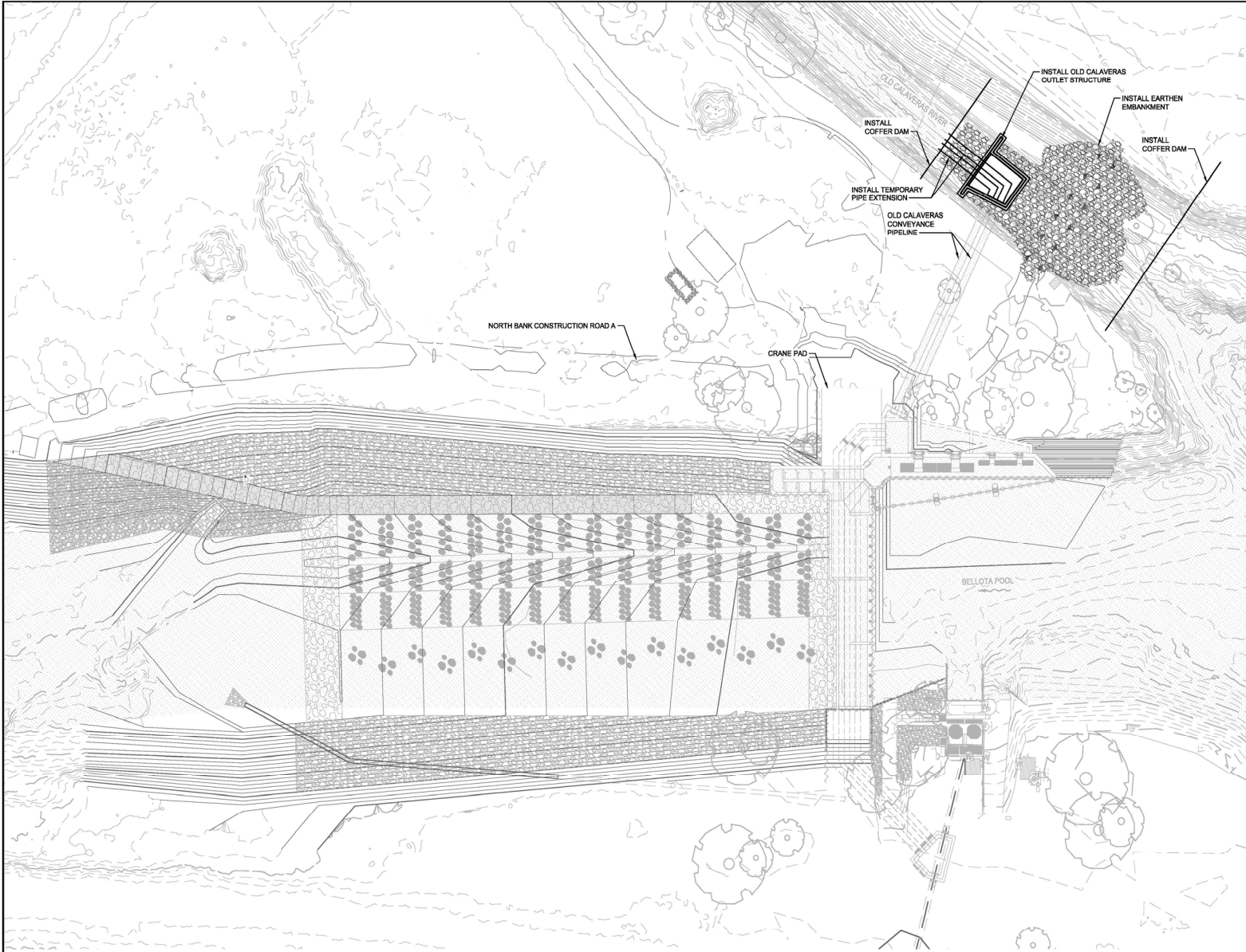
**CARE OF WATER AND CONSTRUCTION SEQUENCE 4**  
 50% SUBMITTAL

DESIGN BY: RIA  
 DRAWN BY: JLC  
 CHECK BY: MJH  
 SUBMITTED BY:  
 HORIZONTAL DATUM: CCS83, ZONE 3  
 VERTICAL DATUM: NAVD88  
 DRAWING SCALE: VERT: N/A  
 HORZ: 1" = 40'  
 ORIGINAL DRAWING SCALE: 0 1/2" 1"

DATE: 10/01/21  
 SHEET IDENTIFICATION: **CS112**  
 SHEET 13 OF 3X  
 KSN PROJECT FILE NO. 2432-0010

**Figure 2-17. Phase 4 Improvements**  
 2019-225 Bellota Fish Screen and Passage

FILE: S:\E\Projects\2019\20190914\CS113.dwg  
 PLOT DATE: 7/20/22 9:58:58am



**GENERAL NOTES:**

- CARE OF WATER WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS PRESENTED IN APPROVED PROJECT PERMITS.
- NO WORK SHALL BE PERFORMED UNTIL CONTRACTOR HAS PREPARED A DEWATERING SEQUENCING PLAN THAT HAS BEEN APPROVED BY THE DISTRICT, NMFS, USFWS, AND CDFW.
- THIS SEQUENCING PLAN IS CONCEPTUAL IN NATURE AND PREPARED FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND EXECUTION OF THE FINAL PLAN.
- PRIOR TO CONSTRUCTION OF THE OLD CALAVERAS RIVER OUTLET STRUCTURE, CONSTRUCT OLD CALAVERAS RIVER TEMPORARY PIPE EXTENSION TO MAINTAIN FLOW TO OLD CALAVERAS RIVER.
- FLOW IS MAINTAINED TO THE DISTRICT THROUGH THE EXISTING INTAKE AND TO OLD CALAVERAS RIVER THROUGH THE OLD CALAVERAS BYPASS PIPELINE.
- FISH PASSAGE IS MAINTAINED THROUGH USE OF THE ROUGHENED CHANNEL.

PROJECT NO. 2432-0010  
 DATE: 10/01/21  
 SHEET IDENTIFICATION: CS113  
 SHEET - OF XX  
 KSN PROJECT FILE NO. 2432-0010



**STOCKTON EAST WATER DISTRICT**  
 677 EAST MAIN ST.  
 STOCKTON, CA



BELLOTA WEIR MODIFICATIONS PROJECT  
 24320 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA  
**CARE OF WATER AND CONSTRUCTION SEQUENCE 5**  
 90% SUBMITTAL

DESIGN BY: RIA  
 DRAWN BY: JLC  
 CHECK BY: MJH  
 SUBMITTED BY:  
 HORIZONTAL DATUM: CCS83, ZONE 3  
 VERTICAL DATUM: NAVD83  
 DRAWING SCALE: VERT: 1"=40', HORZ: 1"=40'  
 ORIGINAL DRAWING SCALE: 0 1/2 1"

**CONSTRUCTION SEQUENCE 5**  
 SCALE: 1" = 40'

NO.	DESCRIPTION	DATE	APPR.	SUBMITTAL	
				%	Date
				35	05/18/2021
				65	10/01/2021

**NORTH ORIENTATION**

PROJECT ENGINEER: [Signature]

**PRELIMINARY NOT FOR CONSTRUCTION**

DATE: 10/01/21  
 SHEET IDENTIFICATION: **CS113**  
 SHEET - OF XX  
 KSN PROJECT FILE NO. 2432-0010

**Figure 2-18. Phase 5 Improvements**  
 2019-225 Bellota Fish Screen and Passage

- Construct the new concrete Calaveras outlet structure.
- Construct earthen fill levee with appropriate seepage controls.
- Install Bellota Pool right bank armoring.
- Complete all the necessary startup operational controls to operate the intake facility as intended.

## **2.15 Project Operation**

The Project's major operational components include the intake facility screens, weir and intake, sluiceways and gates, and fish passage infrastructure. All equipment would be operated under specific conditions to meet the primary objectives of the Project. Flow would be conveyed down the roughened channel to facilitate fish passage under all operational scenarios.

Facility equipment would operate per the following four conditions:

- Normal operation during the non-irrigation season
- Normal operation during the irrigation season
- High-flow conditions during the irrigation season
- Periodic sluicing of debris and sediment through the sluice pipelines

### **2.15.1 Normal Operation During the Non-Irrigation Season**

The non-irrigation operating season represents a period when the Calaveras River flows are conveyed primarily over the lowered Obermeyer weirs to Mormon Slough. During this period, river flows can vary widely from 0 cfs to as high as 12,690 cfs (FEMA 2016). New Hogan Dam reservoir releases during the rainy season are operated primarily for flow and flood control to protect agricultural, urban, and suburban land along the Calaveras River, Mormon Slough, and Stockton Diverting Canal (CH2M 2006), and control over the reservoir is by the U.S. Army Corps of Engineers (USACE) when flood control operations are triggered.

High-flow events would be used to sluice bedload downstream of the Project from the forebay, screen channel, and intake manifold. Low-frequency, high-magnitude flows may require emergency measures or actions to protect existing infrastructure when they occur. Emergency scenarios would be developed further as the Project design advances.

#### **2.15.1.1 Intake Screens**

During the non-irrigation season at current flow requirements, the two larger 90-inch- diameter fish screens are raised to their full maintenance position above the water surface, the isolation gates behind these screens are fully closed, and the weir gates are in a fully down position. Diversion to the treatment plant during this time will be obtained using the two smaller 60- inch-diameter screens capable of diverting up to 90 cfs (maximum) without exceeding the maximum 0.33 fps approach velocity criteria.

### **2.15.1.2 Bellota Weir and Bellota Intake**

While there are no agricultural diversions during the flood season, SEWD diverts flow for municipal purposes year-round for the WTP. During the non-irrigation season, the headwater elevation would be reduced to approximately 115.44 feet NAVD88 by lowering the weir gates. Water would pass through the fish screens into the intake manifold, be equalized in the intake manifold, and then routed to the distribution structure. Water control gates at the distribution structure would modulate to the desired diversion flow rates for both the Bellota and Old Calaveras River diversions.

Under present non-irrigation season conditions, approximately 46 cfs would be diverted to the WTP through the Bellota Intake and 15 cfs to the Old Calaveras River for recharge. Any remaining flow would be diverted downstream into Mormon Slough.

Under future non-irrigation season conditions, approximately 60 cfs would be diverted to the WTP through the Bellota Intake and 15 cfs to the Old Calaveras River for recharge. Any remaining flow would be diverted downstream into Mormon Slough.

### **2.15.1.3 Fish Passage**

During the non-irrigation season operation, fish passage would be conveyed only through use of the roughened channel. The fish ladder would be closed.

## **2.15.2 Normal Operation During the Irrigation Season**

During the irrigation season, the weir gates would be operated automatically to maintain a minimum operating WSE of 121.44 feet NAVD88 in the Bellota pool to achieve the necessary driving head to deliver water to the treatment facility with up to 200 cfs as well as provide adequate depth and sweeping velocity for the fish screens and diversion.

### **2.15.2.1 Intake Screens**

During irrigation season operating conditions, the screen isolation gates would be in their fully open positions and all four of the fish screens would be in the down position in the water. Under the maximum demand of 230 cfs, at least one 60-inch-diameter screen and one 90-inch-diameter screen would be in operation at any given time, with the other two screens on standby.

### **2.15.2.2 Bellota Weir and Bellota Intake**

During the irrigation season, the headwater elevation would be raised to approximately 121.44 feet NAVD88 by raising the weir gates. Water would pass through the fish screens into the intake manifold, be equalized in the intake manifold, and then routed to the distribution structure. Water control gates at the distribution structure would modulate to the desired diversion flow rates for both the Bellota and the Old Calaveras River diversions.

Under present conditions, approximately 70 cfs would be diverted to the WTP through the Bellota intake. Approximately 150 cfs would be diverted to the Old Calaveras River and any remaining flow is conveyed down Mormon Slough to satisfy irrigation demands.

Under future conditions, approximately 200 cfs would be diverted to the WTP through the Bellota intake. Approximately 150 cfs would be diverted to the Old Calaveras River and any remaining flow is conveyed down Mormon Slough to satisfy irrigation demands.

### **2.15.2.3 Fish Passage**

During the irrigation season, fish passage flows would be conveyed using both the roughened channel and fish ladder. Up to about 20 cfs of the flow diverted downstream in Mormon Slough would pass through the fish ladder. Remaining flow diverted downstream into Mormon Slough (up to about a total of 70 cfs) would be conveyed through either the Overflow Bypass or Obermeyer Weir Gate 3.

Operating conditions under both present and future operation are summarized in *Tables 2-6 and 2-7*. The tables provide direction as to flow pathways at various flow events. *Figure 2-19* depicts these flow pathways.



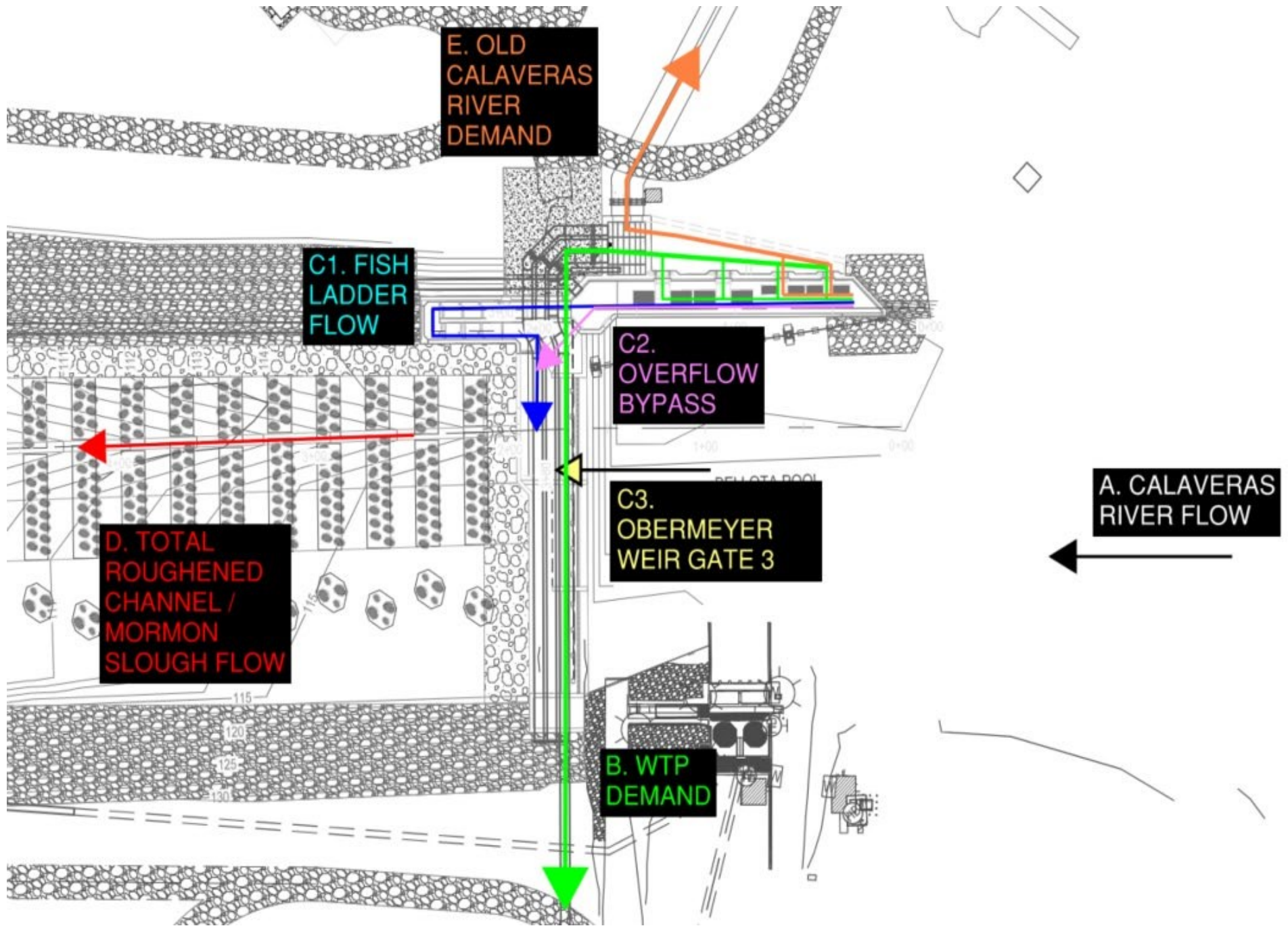
**Table 2-6. Present Demand Operating Conditions**

Time of Year	Migrating Fish Potential	A. Calaveras River Flow Upstream of Weir (cfs)	B. WTP Demand (cfs)	C1. Fish Ladder Flow (cfs)	C2. Overflow Bypass (cfs)	C3. Obermeyer Weir (cfs)	D. Total Roughened Channel/ Mormon Slough Flow (C1+C2+C3) (cfs)	E. Old Calaveras River Demand (cfs)
<b>Irrigation season</b> Roughened channel and fish ladder in use Obermeyer Weirs are raised to WSE 121.44 feet NAVD88 One 60-inch and one 90-inch cylindrical tee screen in use	Limited juvenile salmonid ( <i>O. mykiss</i> and fall run Chinook salmon ) passage been observed within the Calaveras watershed migrating during this time.  Limited to Mar - May according to CHCP.	0 – 75	0 – 75	0	0	0	0	0
		75 – 245	75	0 – 20*	0	0	0 – 20	0 – 150*
		245 – 295	75	20	0 – 50	0	20 – 70	150
		295+	75	20	50	0+	70+	150
<b>Non-irrigation season</b> Roughened channel in use Obermeyer Weirs are lowered to for WSE 115.44 feet NAVD88 Two 60-inch cylindrical tee screens in use	Fall run and late fall-run Chinook, and steelhead are likely to be within the Calaveras watershed migrating during this time from November - March.	0 – 46	0 – 46	N/A	N/A	0	0	0
		46 – 61	46	N/A	N/A	0	0	0 – 15
		61+	46	N/A	N/A	0+	0+	15

**Table 2-7. Future Demand Operating Conditions**

Time of Year	Migrating Fish Potential	A. Calaveras River Flow Upstream of Weir (cfs)	B. WTP Demand (cfs)	C1. Fish Ladder Flow (cfs)	C2. Overflow Bypass (cfs)	C3. Obermeyer Weir (cfs)	D. Total Roughened Channel Flow/ Mormon Slough Flow (C1+C2+C3) (cfs)	E. Old Calaveras River Demand (cfs)
<b>Irrigation season</b> Roughened channel and fish ladder in use Obermeyer Weirs are raised to WSEL 121.44 NAVD88 All four cylindrical tee screens are in use	Limited juvenile salmonid ( <i>O. mykiss</i> and fall run Chinook salmon ) passage been observed within the Calaveras watershed migrating during this time.  Limited to Mar - May according to CHCP.	0 – 200	0 – 200	0	0	0	0	0
		200 – 370	200	0 – 20*	0	0	0 – 20	0 – 150*
		370 – 420	200	20	0 – 50	0	20 – 70	150
		420+	200	20	50	0+	70+	150
<b>Non-irrigation season</b> Roughened channel in use Obermeyer Weirs are lowered to WSE 115.44 feet NAVD88 Two 60-inch cylindrical tee screens are in use	Fall run, late fall run Chinook, and steelhead are likely to be within the Calaveras Watershed migrating during this time from November - March.	0 – 60	0 – 60	N/A	N/A	0	0	0
		60 – 75	60	N/A	N/A	0	0	0 – 15
		75+	60	N/A	N/A	0+	0+	15

\*After WTP demand has been satisfied, flow will be conveyed to Mormon Slough and Old Calaveras River until fish ladder operation flow rate has been met.



**Figure 2-19. Operating Conditions**  
 2019-225 Bellota Fish Screen and Passage

### **2.15.3 High-Flow Conditions During Irrigation Season**

Periods of high flow, turbidity, sediment, and debris movement occur within the irrigation season. Conditions that may diminish the effectiveness of the surface water diversion may occur once out of every 5 to 10 years when large-magnitude river flow events mobilize large amounts of buoyant and semi-buoyant debris in the water column. The proposed design incorporates several measures to mitigate these conditions, but the actual performance and resilience of the intake facility during these periods will be relatively uncertain until several years after operation of the facility begins. The screen and intake design is configured to protect the fish screens during high debris and bedload movement. Raising or lowering the screens during storm events is not anticipated. The debris boom is intended to exclude large debris from entering the screen bay while the bypass maintains sweeping velocities across the screen to convey buoyant and semi-buoyant debris downstream. Fine sediments in the screened intake manifold would be addressed with a water jet sediment removal system to keep the fine sediment in suspension. Sediment accumulation in the intake manifold and/or distribution structure will be addressed by a 12-inch-diameter sluice pipe connected to the 54-inch-diameter sluicing pipeline.

High-flow events may be taken advantage of by using the higher velocities to sluice accumulated debris or sediment.

### **2.15.4 Periodic Sluicing through the Sluice Pipelines**

Sluicing through the piped sluiceway would occur periodically as needed to flush out material. Bedload and debris would be moved from upstream of the roughened channel to downstream of the facility.

This sluicing strategy would maintain an unimpeded hydraulic pathway from the forebay to the intake screens by clearing any bedload or debris that has accumulated upstream of the weir near the intake as well as in the screenings channel. Further, the sluiceway can be used strategically to bypass the sediment around the weir crest and roughened channel to increase the magnitude and frequency of sediment movement through the reach. The operating rule curves and operating strategy will be developed further as the design progresses.

The sluicing pipeline operational strategy would be opportunistic in nature and focus on those river flow events that provide the highest velocity and shear. This strategy would be developed to maximize the anticipated capacity of sediment transport and minimize the accumulation of sediment, bedload, and debris near and in front of the trash rack inlet to the fish ladder.

## **2.16 Project Maintenance Expectations**

Anticipated maintenance efforts for the intake, water conveyance system, sluiceway, and roughened-channel fishway are described in this section.

## **2.16.1 Pipeline Intake**

### **2.16.1.1 Screen Maintenance**

Occasional maintenance may be necessary throughout the life of the intake structure to remove large debris from screens or sluiceway, and check or perform minor repairs on screens. Cleaning of the screens will occur largely without human interaction via an automated system during normal operating periods. Occasional maintenance may be necessary for the automated debris rake system as well to ensure all systems are running properly. Higher levels of effort and attention to the fish screens may be required during periods of higher flows and high diversion demand that may periodically overlap. Sluicing of the area in front of and behind the fish screens is an operation that may be initiated manually but is carried out via push-button controls. Removal of sediment within the intake is expected to occur as frequently as required for the existing intake.

### **2.16.1.2 Consolidated Pipeline Intake Maintenance (Instream Structures)**

Most maintenance actions related to the new intake would occur within the new infrastructure and therefore would be isolated from the river channel. Following a large flood event, however, minor replacement of armoring adjacent to the new intake structure or removal of debris from the sluiceway exit may be necessary.

To address maintenance needs, the District anticipates most repairs would be accomplished using an excavator positioned on the access road along the north bank of the Mormon Slough, or from the bank. In-water work may be necessary. In-water maintenance activities may be covered under a maintenance permit or could require a stand-alone permit; this would be determined through later stages of design and conversations with the District.

## **2.16.2 Sluiceway**

The 54-inch-diameter sluiceway would provide sufficient flows to remove accumulated bedload in the forebay or intake structure. During forebay sluicing, the water level should be lowered enough to induce mobilization of sediment. The same principle applies to sluicing the intake structure.

## **2.16.3 Roughened-Channel Fishway**

The roughened-channel fishway and crest are designed to withstand flows up to and including the 100-year flow (12,690 cfs) with some anticipated limited damage. Project failure at this site is defined as the inability to effectively pass fish through the reach or provide a reliable water supply to meet irrigation demands. The structural integrity of the weir crest and functional stability of the roughened channel should not be compromised during or following any given flow event up to the 100-year flow. Despite this, annual maintenance activities in the roughened-channel fishway may be required to remove large debris if such debris is interfering with low flow conditions. Large debris removal would likely be accomplished using an excavator with an extension arm operating from the access road.

Although the design emphasizes stability, higher flow events may cause unanticipated scour and erosion altering the roughened channel crest and/or bed configuration requiring maintenance or repair activities. Repair activities may include filling eroded areas with a designed rock matrix similar to the original design, or resetting specific large rocks at the crest or mid-fish channel to reestablish the indented hydraulic conditions. In-water activities required to maintain intended operations in the same footprint of the original facility are expected to fall under maintenance exemptions. Larger scale repairs may require review and individual permits approved through multiple government agencies on a case-by-case basis.

### **2.16.3.1 Annual or Typical Maintenance**

Large debris removal would be accomplished using an excavator with an extension arm operating atop the riprap wall of the sluiceway; no equipment would enter the channel except for the bucket arm. Plant removal would also likely be required during annual maintenance. Annual maintenance would be accomplished during the in-water work window. The annual level of effort associated with maintenance is anticipated to be zero to eight workdays.

### **2.16.3.2 Infrequent Maintenance**

Although the design emphasizes stability, higher flow events may scour and erode the streambed and alter the roughened channel crest and/or bed configuration to a level requiring maintenance or repair activities. Larger scale repairs may require coordination with the CDFW, NMFS, and USACE for review and approval.

Infrequent repair activities may include filling eroded areas with a designed rock matrix similar to the original design or resetting specific large rocks at the crest or mid-fish channel to reestablish the indented hydraulic conditions. In-water activities required to maintain intended operations in the same footprint of the original facility are expected to fall under maintenance exemptions for several permits (e.g., Hydraulic Permit Application and Clean Water Act 404/401). If such activities cannot be completed solely from the access road along the north bank or in the dry during low flow periods, an approach using a cofferdam and dewatering, including protocols for fish salvage, would be implemented as necessary.

All in-water maintenance activities would occur during the in-water work window unless otherwise approved. The level of effort for these types of maintenance events may be on the order of 10 workdays.

## **2.16.4 Weir**

The adjustable weir gate system would need to have general maintenance on an annual basis. Main components to be inspected and maintained are the air compressors, receiver tank, connection to the air bladder, gate leaves, restraining straps, protection plate, and protection plate wheel.

Infrequent maintenance may require that the area be dewatered. Stop logs can be placed upstream to block off the area so maintenance can be performed in the dry. If the bladder needs to be accessed, there are attachment points on the gate leaves and pier walls so the gate can be in the raised position without the bladder holding up the gate leaf.

### **2.16.5 Fish Ladder**

The fish ladder foundation and walls should be inspected for structural integrity, cracking, and other signs of damage. Visual, surface level inspections of concrete elements would be made to identify obvious defects, hazards, or potential problems, and to monitor known problems.

Inspections and maintenance should be recorded to provide a historical account of the fish ladder's condition. Any cracking or other signs of damage to the ladder structure should be recorded. The ladder structure should be inspected in accordance with the following:

- Confirm the fish ladder ramps, slots, and weirs have not been damaged
- Inspect the weirs, slots, and walls for signs of cracking, spalling, or corrosion
- Check the extent of vertical and horizontal cracking; cracks that run the entire height or width of the ladder may indicate movement or undermining of the ladder's foundations

The fish ladder would be sluiced using higher flows to dislodge any accumulated debris or sediment. The gate on the upstream pool and weir would be opened to accommodate this sluicing. Some sediment or debris may not be removable by sluicing, due to eddies typical of vertical slot ladders. If apparent, a high-pressure water source would be used to remove built-up sediment, grit, biological growth (algae), and other debris that has accumulated in the fish ladder structure. The stoplogs can be removed from the entrance weir so that the entire fish ladder is drained.

The fish ladder should be inspected and cleaned regularly, and debris should be removed by properly trained personnel. Infrequently, larger debris may become jammed within the fish ladder. The trash rack is anticipated to limit all larger debris that could enter the ladder, though if any larger debris does pass, it would likely need to be dislodged manually.

All maintenance activities should occur during the non-irrigation season when the ladder is not in use.

## **2.17 Regulatory Requirements, Permits, and Approvals**

SEWD is the CEQA Lead Agency for the Proposed Project. To approve the Project, the SEWD Board must first comply with CEQA by adopting the IS/MND. The SEWD Board could then consider the information contained in the IS/MND in making its decision to approve or deny the Proposed Project, approve the construction plans, and file a Notice of Determination with the State Clearinghouse.

The Proposed Project may also require approvals and/or permits from other state and federal agencies, including but not limited to the following:

- CDFW, Section 1602 Permit (Lake and Streambed Alteration Agreement);
- Central Valley Regional Water Quality Control Board (CVRWQCB), Section 401 Permit;
- Central Valley Flood Protection Board (CVFPB), Flood Encroachment Permit;
- USACE, Section 404 Permit;

- USFWS, Section 7 Consultation;
- NOAA Fisheries, Section 7 Consultation.

The above state agencies would serve as Responsible Agencies under CEQA and may rely on this IS/MND for their related discretionary actions.

## **2.18 Consultation with California Native American Tribe(s)**

Assembly Bill (AB) 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the Lead Agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe; and, (2) the California Native American tribe responds in writing, within 30 days of receipt of the formal notification, and requests the consultation. SEWD notified the Wilton Rancheria, Torres Martinez Desert Cahuilla Indians, Buena Vista Rancheria, and Chicken Ranch Rancheria of Me-Wuk Indians tribes of the proposed Project on December 16, 2021. The Torres Martinez Desert Cahuilla Indians, Buena Vista Rancheria, and Chicken Ranch Rancheria of Me-Wuk Indians tribes did not respond to SEWD's notification letter, and therefore, the threshold for carrying out tribal consultation with these tribes under PRC 21080.3.1(e) was not met, and no further consultation occurred. On January 19, 2022, the Wilton Rancheria tribe responded via email and accepted SEWD's offer for tribal consultation. Further information on potential Tribal Cultural Resources (TCRs) in the Project Area is provided in Section 4.20 of this IS/MND.



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**3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION**

**3.1 Environmental Factors Potentially Affected**

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

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Hazards/Hazardous Materials	<input type="checkbox"/> Recreation
<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Transportation
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Utilities and Service Systems
<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Wildfire
<input type="checkbox"/> Energy	<input type="checkbox"/> Paleontological Resources	<input type="checkbox"/> Mandatory Findings of Significance
<input type="checkbox"/> Geology and Soils	<input type="checkbox"/> Population and Housing	
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Public Services	

**Determination**

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	<input type="checkbox"/>
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	<input type="checkbox"/>

  
Justin M. Hopkins  
General Manager

9-15-22  
Date

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## **4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION**

### **4.1 Aesthetics**

#### **4.1.1 Environmental Setting**

San Joaquin County is set within the greater San Joaquin Valley, with the Delta and large expanses of level, agricultural lands and urban development framed by the foothills of the Diablo Range to the west and the foothills of the Sierra Nevada to the east. The foothills of the Diablo Range separate San Joaquin County from Alameda County and Contra Costa County to the west, with the main access between these counties being Interstate 205 (I-205), which cuts through the Altamont Pass. The eastern portion of San Joaquin County, and adjoining Amador County and Calaveras County to the east, share the rolling terrain of the Sierra Nevada foothills. To the south, the Stanislaus River separates San Joaquin County from Stanislaus County. Other major rivers passing through San Joaquin County include the San Joaquin River, the Calaveras River, the Mokelumne River, and Dry Creek. Agricultural uses make up about 83 percent of the unincorporated lands within the County, with urban development concentrated in the seven incorporated cities of the County.

##### **4.1.1.1 Regional Setting**

Long distance and open sky views are possible from many locations within San Joaquin County due to the predominantly level terrain and low density of development. The most intense development occurs within the urban centers of Stockton and Tracy; otherwise, much of the County is developed at low densities with buildings not typically exceeding two stories. Large expanses of agricultural land are often broken up by small areas of scattered development. The most intense corridors of development occur along I-205 in the southwestern portion of the County and along I-5 through the central portion of the County.

##### **State Scenic Highways**

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. According to the San Joaquin County 2035 General Plan Final EIR, the only designated scenic highways in the County are the 0.7-mile-long stretch of I-5 from the Stanislaus County line to I-580 and all of I-580 to where it joins I-205 (San Joaquin County. 2016.).

##### **Local County Designated Scenic Routes**

At the local level, San Joaquin County designates a number of scenic routes. In the Project vicinity, these include SR 26 (an east/west 2-lane rural highway) and East Shelton Road (an east/west 2-lane rural road). These roads are designated as scenic routes beginning at their intersection with Escalon-Bellota Road, located approximately 600 feet south of the Project site, east to the Calaveras County Line. SR 26 borders the Project site's eastern boundary and East Shelton Road borders the site's southern boundary.

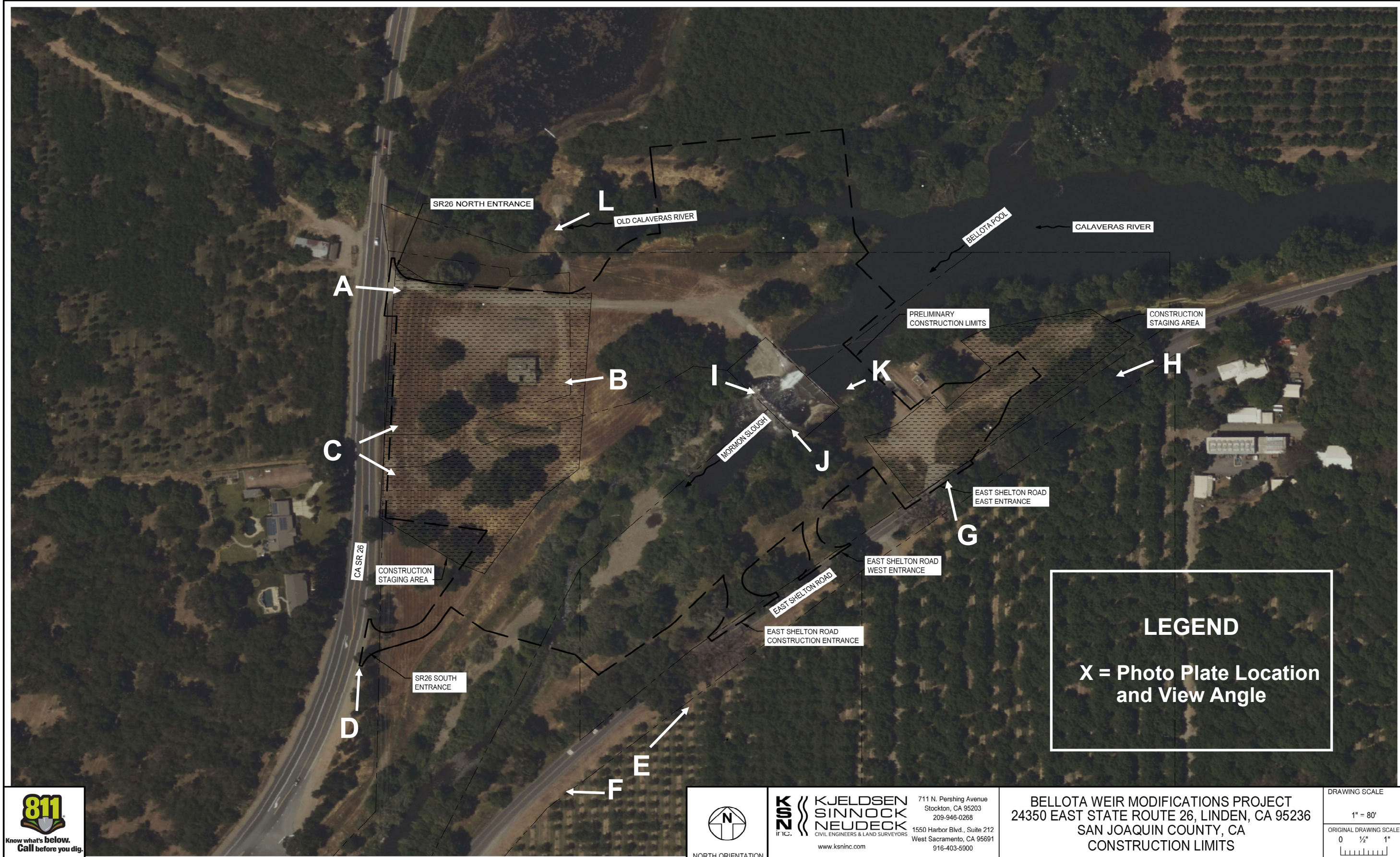
#### **4.1.1.2 Visual Character of the Project Site**

The Project site lies adjacent the Calaveras River and Mormon Slough (Figure 2-3). Like many of the County's river corridors, the Project Areas is lined with thick riparian vegetation, forming a strong visual contrast to adjoining agricultural and grazing lands. According to the San Joaquin County General Plan, rivers form important visual resources within the County and also serve as important recreational amenities. Significant oak groves are also found on the Project site, as well as in scattered locations nearby. In the Project Area, the oak groves form a strong contrast to the often prevailing agricultural and/or grass-covered terrain.

Existing Project site visual/aesthetic conditions are shown in *Figures 4.1-2 through 4.1-6* with related photo location points and viewing angles depicted in Figure 4.1-1. As shown, the Project site can be viewed from the following public roads which are also designated as local scenic routes: SR 26 and East Shelton Road. While the Project site and several small structures related to existing operations can be seen from these adjacent roads, the existing Bellota Dam and Intake Structure are primarily located below the Mormon Slough top of bank and therefore are mostly not visible from adjacent public roads. Only a small portion of the existing concrete dam apron located on the west bank of Mormon Slough is visible from East Shelton Road and this view is mostly screened by trees and vegetation.

Views of the Project site from SR 26 are more pronounced, although most existing Project facilities are set back several hundred feet from the road, are screened by trees and vegetation, and/or are located below top of bank and thus not visible. Prominent features that are currently visible from SR 26 include an existing soil stockpile and existing abandoned structure (Figure 4.1-2, Photo Plate B). The abandoned structure would be demolished as part of the Project. Because they are located below the Mormon Slough top of bank, the existing Bellota Dam and Intake Facility are not visible from SR 26 due to significant tree and vegetation screening. Similarly, the existing Old Calaveras River earthen berm and control gates (Figure 4.1-6 Photo Plate L) and the proposed location of the Old Calaveras River Earthen Embankment are not visible from adjacent public viewing locations.

FILE SPEC: P:\2432\_SEWD\_Bellota\_Weir\_Fish\_Ladder\_Rep\0010\_Fish\_Ladder\_Replacement\08\_Civil\400\_Plans\020\_CAD\Exhibits\220225\_CS104(Fig 2-2).dwg  
 PLOT DATE: Feb 25, 2022 - 2:05pm



**LEGEND**  
 X = Photo Plate Location  
 and View Angle



**KSN** KJELDSSEN SINNOCK NEUDECK  
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**BELLOTA WEIR MODIFICATIONS PROJECT**  
 24350 EAST STATE ROUTE 26, LINDEN, CA 95236  
 SAN JOAQUIN COUNTY, CA  
 CONSTRUCTION LIMITS

DRAWING SCALE  
 1" = 80'  
 ORIGINAL DRAWING SCALE  
 0 1/2" 1"

EXHIBIT NO.  
**A**  
 PAGE NO.  
 1



**Photo Plate A : Existing view of Project Site Highway 26 North Entrance looking east**



**Photo Plate B: Close up of Existing Abandoned Structure to be Demolished looking west**

**Figure 4.1-2: Existing Views of Northern Project Site from  
State Route 26  
2019-225 Bellota Fish Screen**



**Photo Plate C: Existing view of Project site from Highway 26 looking east. Existing structure to be demolished is in photo center and existing Highway 26 North Entrance is shown on photo left.**



**Photo Plate D: Existing view of Project site from Highway 26 looking northeast at the proposed Highway 26 South Entrance location.**





**Photo Plate E: Existing view of Project site from East Shelton Road looking northeast at the location of the proposed East Shelton Road West Entrance and Construction Entrance. Project site is on photo left.**



**Photo Plate F: Existing view of Project site from Shelton Road looking southwest. Project site is on photo right.**

**Figure 4.1-4. Existing Views of Southern Project Site  
from East Shelton Road  
2019-225 Bellota Fish Screen**



**Photo Plate G : Existing view of Project site East Shelton Road entrance looking northwest. Existing Bellota Intake and trash racks are out of view located just beyond the small structures below top of bank. The existing Bellota Dam concrete apron located on Mormon Slough north bank can be seen in the background.**



**Photo Plate H: Existing view of Project site from East Shelton Road looking southwest. Existing East Entrance is shown on photo left. Existing Project site structures are shown on photo right. The existing Bellota Intake is out of view located just beyond the existing structures below the Mormon Slough top of bank.**



**Photo Plate I: Existing Bellota flashboard dam (to be demolished) and fish ladder as viewed from Mormon Slough north bank looking south. Existing Bellota intake structure and trash rack operations in background. Existing small structures shown on Photo Plates G and H are visible in the background beyond the intake.**



**Photo Plate J: Existing Bellota flashboard dam (to be demolished) and fish ladder as viewed from Mormon Slough south bank looking north.**

### **4.1.1.3 Applicable County Policies**

The following relevant policies of the San Joaquin County 2035 General Plan address aesthetics. Some policies indirectly address aesthetics by promoting protection of open space and natural areas within the County. It should be noted that while SEWD strives to ensure District projects and operations are developed and conducted consistent with county policy, as a special district involved in water transmission, SEWD is not subject to County zoning, building ordinances or policy as outlined in Government Code sections 53091(a) and 65402(c). Thus, the following policy is presented for informational purposes only.

*NCR-2.4: Preservation of Significant Oak Groves. The County shall require new development in the vicinity of significant oak groves to be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting.*

*NCR-7.1: Scenic Roadways. The County shall protect the visual character of designated scenic roadways.*

*NCR-7.2: Views from Public Lands and Roadways. The County shall ensure that views of waterways, hilltops, and oak groves from public land and public roadways are protected and public access is provided to them whenever possible.*

*NCR-7.4: Visually Complementary Development. The County shall require new development adjacent to scenic resources to be sited and designed to visually complement those resources, except in MR-Z designated areas.*

*NCR-7.5: Require Landscape Plans. The County shall require landscape plans for new development along State- or County-designated scenic routes.*

*NCR-7.7: Reducing Light Pollution. The County shall encourage project designs, lighting configurations, and operational practices that reduce light pollution and preserve views of the night sky.*

*NCR-7.8: Underground Utility Lines. The County shall require all new electric and communication distribution facilities adjacent to scenic routes to be placed underground, whenever feasible. Where overhead utility lines are unavoidable, every effort should be made to reduce the visual impact through elements of design.*

*LU-8-1: Open Space Preservation. The County shall limit, to the extent feasible, the conversion of open space and agricultural lands to urban uses and place a high priority on preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, public safety, water resource protection, and overall community benefit.*

LU-8-2: *Open Space Character. The County shall require new development in Resource Conservation designated areas to be planned and designed to maintain the scenic open space character of the surrounding area, including view corridors from highways. New development should use natural landforms and vegetation in the least visually disruptive manner possible, and use design, construction, and maintenance techniques that minimize the visibility of structures.*

**4.1.2 Aesthetics (I) Environmental Checklist and Discussion**

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

In the context of CEQA, a scenic vista is publicly accessible location or opening from where a distant view is best seen from. An example of a vista is a river view from a cliff between two mountains. The Project would not displace or otherwise impact any scenic vista. There would be **no impact**.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**No impact.**

The Project site is not located near any designated state scenic Highway. There would be **no impact**.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

As discussed above, the Project site can be viewed from the following public roads which are also designated as local scenic routes: SR 26 and East Shelton Road. As shown in the existing conditions photos (Figures 4.1-2 through 4.1-5), the Project site is surrounded by cyclone fencing and is most prominently viewed from SR 26, although East Shelton Road also provides public views of the site.

During construction, views of the site would be of typical construction activities. This would include temporary staging areas adjacent both SR 26 and East Shelton Road, possible use of an onsite construction trailer for administrative purposes, routine deliveries of construction equipment and supplies, use of a crane and other earth moving and heavy-duty construction equipment, construction employee parking and other construction associated activities. Following construction, all onsite construction support facilities would be removed and temporarily disturbed areas restored to pre-Project conditions.

Following construction some Project improvements would be partially visible from adjacent roads, but not prominent (similar to existing facilities) because they would either be underground, or located at or below the top of bank of Mormon Slough, at least partially below the line of sight from adjacent public roads. Proposed Project improvements within view from SR 26 would include a new SR 26 south gated entrance, a new Control and Shop Building with backup generator and associated 100-foot-tall latus tower for SCADA operations, new aggregate base roads for internal site circulation, and demolition/removal of the dilapidated residence and at least one other small structure associated with existing operations.

Proposed improvements within view from East Shelton Road would include a new East Shelton Road West Entrance and a secondary Construction Entrance. All other improvements located on the south side of Mormon Slough would be underground except for the new gated entrance and related interior circulation improvements. It should be noted the existing Bellota Weir north bank concrete apron, which under existing conditions is partially visible from East Shelton Road, would be demolished and no longer visible post construction. Depending on the time of year and amount of vegetation present, intermittent views of the Control and Shop Building and associated 100-foot-tall latus tower would be possible from East Shelton Road when traveling adjacent the Project site. Depending on location and intervening vegetation, the 100-foot-tall latus tower may also be visible from the adjacent public roads at slightly more distant locations. However, due to intervening trees and vegetation and latus tower design which becomes thinner with increasing elevation (see Figure 2-12), the tower would not significantly detract from existing skyline views.

Proposed improvements can be characterized as an overall modernization and improvement to the existing visual character of the site as viewed from adjacent public roads. As noted above, the majority of new construction would be underground and/or located below the top of bank consistent with County Policy NCR-7.8 and therefore not visible from offsite public viewing locations. Consistent with policies NCR-7.4 and 7.7, the existing dilapidated structure which is visible to the public from SR 26 would be removed and exterior lighting would only be used for safety and security purposes. Furthermore, all light fixtures would be LED equipped with full cutoff and be shielded to minimize skyglow, glare, and light pollution. Regarding policy NCR 2.4, existing oak trees would be retained to the degree feasible, and the majority of the site would continue to maintain the scenic open space character of the surrounding area, including view corridors from adjacent scenic roads consistent with policies LU 8-1 and 8-2. While Policy NRC-7.5 encourages landscaping for new development along locally designated scenic routes (which

include SR 26 and East Shelton Road adjacent the Project site), because the Project does not include roadside development, and in keeping with the intent of Policies LU 8-1 and 8-2, roadside landscaping is not proposed, nor is it required as discussed in section 4.1.1.3 Applicable County Policies above.

Based on the above, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Related impacts are **less than significant**.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

The following two sources of light intrusion are the main sources that can have visual quality impacts: 1) light emanating from structural interiors and passing through windows, and 2) light from exterior sources, such as street lighting, building illumination, security lighting, event lighting in resort areas, traffic headlights, and landscape lighting.

Land uses such as residences, hospitals, and hotels are considered light-sensitive, as they are typically occupied by persons who may be disturbed by bright lights. At night, lights from cities and communities illuminate developed areas, providing a contrast with the generally uninterrupted darkness of the surrounding agricultural lands within San Joaquin County. The preservation of views of the night sky has been identified as valuable to the community. Glare results mainly from sunlight reflection off flat building surfaces, with glass and reflective metal surfaces typically contributing to the highest degree of reflectivity. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses generally include residences, transportation corridors, and airports. Existing sources of light and glare within San Joaquin County are primarily located in the cities and other development areas.

Project improvements are not expected to produce glare and would not include light emanating from structural interiors and passing through windows. Typical Project operations would occur during daylight hours. All exterior lighting would be for safety and security purposes only. All exterior light fixtures would be LED and would have a color temperature of 3,000 Kelvin (K) as recommended by International Dark-Sky Association to limit exposure to blue light. Each fixture would be equipped with full cutoff and be shielded to minimize skyglow, glare, and light pollution. The nearest existing light-sensitive land use to Project improvements includes three single-family residences located across SR 26, approximately 750 west of the Project site. As discussed above, the Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views for existing light-sensitive uses in the area. Related impacts are **less than significant**.

**4.1.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.2 Agriculture and Forestry Resources**

**4.2.1 Environmental Setting**

The Project is located on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam. The Project Area is surrounded by agricultural fields, mainly orchards; however, it is separated from the agricultural lands to the east and south by East Shelton Road and to the west by Highway 26. Highly disturbed land with scattered trees and some structures are directly adjacent to the Project site (both east and west). The Calaveras River upstream is to the northeast, runs through the Project site, and continues southwest. Duck creek is directly north.

**4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project site is designated “Nonagricultural or Natural Vegetation” by the California Department of Conservation Important Farmland Finder Map (2016. Department of Conservation.). Thus, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The San Joaquin County Development Title identifies the Project site zoning as AG40 (General Agriculture 40 acres minimum). This zone is established to preserve agricultural lands for the continuation of commercial agriculture enterprises. However, as a special district involved in water transmission, SEWD is



not subject to County zoning, building ordinances or policy as outlined in Government Code sections 53091(a) and 65402(c). Thus, the Project would not conflict with existing agricultural zoning and would represent a continuation of the existing water diversion and fish passage uses at the use.

According the Williamson Act Contract Mapping contained on the San Joaquin Valley Gateway website (2022 .San Joaquin Valley Gateway), while most surrounding lands are under Williamson Act Contract, the Project site is not. Therefore, Project construction and operation would not conflict with any existing agricultural zoning or Williamson Act contract and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

Per the San Joaquin County Development Title, Project site zoning is AG40 (General Agriculture 40 acres minimum). However as discussed in response b) above and outlined in Government Code sections 53091(a) and 65402(c), as a special district involved in water transmission SEWD is not subject to County zoning. Thus, the Project would not conflict with or cause rezoning of, forest land (as defined in Public Resources Code (PRC) section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)), and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

As stated above, the Project is not located in an area zoned for Forestland nor does the Project site support forest resources. Thus, Project construction and/or operation would not directly or indirectly result in the loss of forest land and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

No other changes to the existing environment would occur as a result of the Project that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. There would be **no Impact**.

**4.2.3 Mitigation Measures**

None required.

**4.3 Air Quality**

**4.3.1 Environmental Setting**

The Project is located in San Joaquin County. The California Air Resources Board (CARB) has divided California into regional air basins according to topographic features. The Project Area is located within the San Joaquin Valley Air Basin (SJVAB). The local air quality agency affecting the SJVAB is the San Joaquin Valley Air Pollution Control District (SJVAPCD), which is charged with the responsibility of implementing air quality programs.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

Both the U.S. Environmental Protection Agency (USEPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (precursor emissions include nitrogen oxide [NOx] and reactive organic gases [ROG]), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas.

Toxic Air Contaminants (TAC) are separated into categories of carcinogens and noncarcinogens. Carcinogens, such as diesel particulate matter (DPM), are considered dangerous at any level of exposure. Noncarcinogens, however, have a minimum threshold for dangerous exposure. Common sources of TACs include, but are not limited to gas stations, dry cleaners, diesel generators, ships, trains, construction equipment, and motor vehicles.

The USEPA and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) are not to be exceeded more than once per year, other than ozone ( $O_3$ ), coarse particulate matter ( $PM_{10}$ ), fine particulate matter ( $PM_{2.5}$ ), and those based on annual averages (or arithmetic mean). The NAAQS for  $O_3$ ,  $PM_{10}$ , and  $PM_{2.5}$  are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the portion of the SJVAB encompassing the Project is included in Table 4.3-1.

<b>Pollutant</b>	<b>Federal</b>	<b>State</b>
$O_3$	Nonattainment	Nonattainment
$PM_{10}$	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Unclassified/Attainment	Unclassified
$NO_2$	Unclassified/Attainment	Attainment
$SO_2$	Unclassified/Attainment	Attainment

Source: CARB 2019

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal  $O_3$  and  $PM_{2.5}$  standards and is also a nonattainment area for the state standards for  $O_3$ ,  $PM_{10}$ , and  $PM_{2.5}$  (CARB 2019).

## **4.3.2 Regulatory Setting**

### **4.3.2.1 San Joaquin Valley Air Pollution Control District**

The local air quality agency governing the SJVAB is the SJVAPCD, which is charged with the responsibility of implementing air quality programs, ensuring that national and state ambient air quality standards are

not exceeded and that air quality conditions are maintained in the SJVAB. To achieve national and state ambient air quality standards and maintain air quality, the air district has completed several air quality attainment plans and reports, which together constitute the State Implementation Plan (SIP). The federal Clean Air Act (CAA) (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SJVAPCD is responsible to implement those elements of the SIP that are applicable to the SJVAB.

The SJVAPCD has also adopted various rules and regulations for the control of stationary and area sources of emissions. SJVAPCD regulations of potential applicability to the Project are summarized as follows:

- **Regulation IV (Visible Emissions), Rule 4101, Nuisance.** The purpose of this rule is to protect the health and safety of the public from source operations that emit or may emit air contaminants or other materials. It prohibits emissions of air contaminants or other materials “which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.”
- **Regulation IV (Visible Emissions), Rule 4641, Cutback, Slow Curve and Emulsified Asphalt, Paving and Maintenance Operations.** The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions by restricting the application and manufacturing of certain types of asphalt and maintenance operations and applies to the use of these materials. Specifically, certain types of asphalt cannot be used for penetrating prime coat, dust palliative, or other paving: rapid cure and medium cure cutback asphalt, slow cure asphalt that contains more than 0.5 percent of organic compound which evaporates at 500°F or lower, and emulsified asphalt containing VOC in excess of 3 percent which evaporates at 500°F or lower.
- **Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions), Rules 8021–8071, Fugitive PM<sub>10</sub> Prohibitions.** The purpose of these rules is to limit airborne particulate emissions associated with construction, demolition, excavation, extraction, and other earthmoving activities, as well as with open disturbed land and emissions associated with paved and unpaved roads. Accordingly, these rules include specific measures to be employed to prevent and reduce fugitive dust emissions from anthropogenic sources.

These rules will reduce emissions of Nitrous Oxides (NO<sub>x</sub>) and PM<sub>10</sub> from new development projects that attract or generate motor vehicle trips. In general, new development contributes to the air pollution problem in the SJVAB by increasing the number of vehicles and vehicle miles traveled. Although newer, cleaner technology is reducing per-vehicle pollution, the emissions increase from new development partially offsets emission reductions gained from technology advances. Indirect Source Review applies to larger development projects that have not yet gained discretionary approval. A discretionary permit is a permit from a public agency, which requires some amount of deliberation by that agency, including the potential to require modifications or conditions on the project. In accordance with this rule, developers of larger residential, commercial, and industrial projects are required to reduce smog-forming NO<sub>x</sub> and PM<sub>10</sub> emissions from their projects’ baselines as follows (SJVAPCD 2005):

- 20 percent of construction NO<sub>x</sub> exhaust

- 45 percent of construction PM<sub>10</sub> exhaust
- 33 percent of operational NO<sub>x</sub> over 10 years
- 50 percent of operational PM<sub>10</sub> over 10 years

These reductions are intended to be achieved through incorporation of onsite reduction measures. If, after implementation of onsite emissions reduction measures Project emissions still exceed the minimum baseline reduction, the Indirect Source Review requires a project applicant to pay an offsite fee to the SJVAPCD, which is then used to fund clean-air projects within the air basin.

The SJVAPCD has adopted Air Quality Thresholds of Significance for Criteria Pollutants (SJVAPCD 2015a) that identify the level at which a project's annual criteria pollutant emissions would be considered significant, as presented in Table 4.3-2.

<b>Pollutant/Precursor</b>	<b>Construction Emissions (tons per year)</b>	<b>Operational Emissions (tons per year)</b>
CO	100	100
NO <sub>x</sub>	10	10
ROG	10	10
SO <sub>x</sub>	27	27
PM <sub>10</sub>	15	15
PM <sub>2.5</sub>	15	15

Source: SJVAPCD 2015a

#### **4.3.2.2 San Joaquin County General Plan Public Health and Safety Element**

The 2016 Public Health and Safety Element of the San Joaquin County General Plan contains goals and policies that address air quality issues within San Joaquin County. The following Public Health and Safety Element policies are identified as being applicable for consideration in CEQA review of the Project: However, as discussed elsewhere in this document, while SEWD strives to ensure District projects and operations are developed and conducted consistent with county policy, as a special district involved in water transmission, SEWD is not subject to County zoning, building ordinances or policy as outlined in Government Code sections 53091(a) and 65402(c). Thus, the following policy discussion is presented for informational purposes only.

*PHS-5.2: San Joaquin Valley Air Pollution Control District Coordination. The County shall coordinate with the San Joaquin Valley Air Pollution Control District (SJVAPCD) during the review of new development projects which have the potential for causing adverse air quality impacts.*

*PHS-5.4: Innovative Mitigation Measures. The County shall encourage innovative mitigation measures and project redesign to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.*

*PHS-5.5: Air District Best Performance Standards. The County shall consider the Best Performance Standards adopted by SJVAPCD during the review of new development proposals.*

*PHS-5.9: Particulate Emissions from Construction. The County shall support SJVAPCD efforts to reduce PM10 and PM2.5 emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with State and Federal regulations.*

**4.3.3 Air Quality (III) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

As previously described, the Project region is designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> (CARB 2019). The USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and Project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the SJVAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The SJVAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SJVAB is in nonattainment. In order to reduce such emissions, the SJVAPCD prepared the 2007 Ozone Plan, 2013 Plan for the Revoked 1-Hour Ozone Standard, 2016 Plan for the 2008 8-Hour Ozone Standard, 2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard, 2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard, 2007 PM<sub>10</sub> Maintenance Plan and Request for Re-designation, and 2018 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard. These plans collectively address the air basin’s nonattainment status with the national and state O<sub>3</sub> standards as well as particulate matter by establishing a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions. According to the SJVAPCD (2015b),

the established thresholds of significance for criteria pollutant emissions are based on SJVAPCD New Source Review offset requirements for stationary sources. Stationary sources in the SJVAB are subject to some of the most stringent regulatory requirements in the nation. Emission reductions achieved through implementation of SJVAPCD offset requirements are a major component of the District’s air quality planning efforts. Thus, projects with emissions below the thresholds of significance for criteria pollutants are determined to “Not conflict or obstruct implementation of the District’s air quality plan” (SJVAPCD 2015b).

As shown in Table 4.3-3 below, the Project would not generate emissions that would exceed SJVAPCD significance thresholds and therefore would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations. Additionally, once construction is complete, the Project would not generate quantifiable criteria emissions beyond current conditions.

Projects with emissions below the thresholds of significance for criteria pollutants are determined to “Not conflict or obstruct implementation of the District’s air quality plan” (SJVAPCD 2015b). Therefore, the Project would not conflict with or obstruct implementation of any applicable air quality plan and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

**4.3.3.1 Construction Impacts**

Emissions generated during Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions would be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, dozers, backhoes), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Activities such as excavation and grading operations, worker vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during Project construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Project construction activities would be subject to SJVAPCD Regulation VIII, which specifies the following measures to control fugitive dust:

- Apply water to unpaved surfaces and areas.

- Use nontoxic chemical or organic dust suppressants on unpaved roads and traffic areas.
- Limit or reduce vehicle speed on unpaved roads and traffic areas to a maximum 15 miles per hour.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers.
- During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently wet when handling.
- Store and handle materials in a three-sided structure.
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Do not overload haul trucks. Overloaded trucks are likely to spill bulk materials.
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent trackout by installing a trackout control device.
- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

Predicted emissions generated during Project construction were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Appendix B for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily emissions associated with Project construction are summarized in Table 4.3-3. Construction-generated emissions would be short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SJVAPCD's thresholds of significance.

<b>Table 4.3-3. Unmitigated Construction-Related Criteria Pollutant Emissions (Maximum Tons per Year)</b>						
<b>Construction Activities</b>	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Construction Year One</b>						
Phase 1A Construction	0.04	0.57	0.35	0.00	0.05	0.02



<b>Table 4.3-3. Unmitigated Construction-Related Criteria Pollutant Emissions (Maximum Tons per Year)</b>						
<b>Construction Activities</b>	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Total Year One Construction</b>	<b>0.04</b>	<b>0.57</b>	<b>0.35</b>	<b>0.00</b>	<b>0.05</b>	<b>0.02</b>
<i>SJVAPCD Significance Threshold</i>	<i>10 tons/year</i>	<i>10 tons/year</i>	<i>100 tons/year</i>	<i>27 tons/year</i>	<i>15 tons/year</i>	<i>15 tons/year</i>
<b>Exceed SJVAPCD Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<b>Construction Year Two</b>						
Phase 1B-1D Construction	0.14	2.15	1.47	0.01	0.25	0.09
Phase 2 Construction	0.02	0.31	0.28	0.00	0.02	0.02
<b>Total Year Two Construction</b>	<b>0.16</b>	<b>2.46</b>	<b>1.75</b>	<b>0.01</b>	<b>0.27</b>	<b>0.11</b>
<i>SJVAPCD Significance Threshold</i>	<i>10 tons/year</i>	<i>10 tons/year</i>	<i>100 tons/year</i>	<i>27 tons/year</i>	<i>15 tons/year</i>	<i>15 tons/year</i>
<b>Exceed SJVAPCD Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<b>Construction Year Three</b>						
Phase 2 Construction (continued)	0.03	0.37	0.32	0.00	0.02	0.02
Phase 3 Construction	0.06	0.69	0.56	0.00	0.06	0.03
Phase 4 Construction	0.03	0.42	0.35	0.00	0.05	0.01
<b>Total Year Three Construction</b>	<b>0.12</b>	<b>1.48</b>	<b>1.23</b>	<b>0.00</b>	<b>0.13</b>	<b>0.06</b>
<i>SJVAPCD Significance Threshold</i>	<i>10 tons/year</i>	<i>10 tons/year</i>	<i>100 tons/year</i>	<i>27 tons/year</i>	<i>15 tons/year</i>	<i>15 tons/year</i>
<b>Exceed SJVAPCD Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<b>Construction Year Four</b>						
Phase 4 Construction (continued)	0.04	0.54	0.47	0.00	0.04	0.02
Phase 5 Construction	0.05	0.61	0.52	0.00	0.03	0.02
<b>Total Year Four Construction</b>	<b>0.09</b>	<b>1.15</b>	<b>0.99</b>	<b>0.00</b>	<b>0.07</b>	<b>0.04</b>
<i>SJVAPCD Significance Threshold</i>	<i>10 tons/year</i>	<i>10 tons/year</i>	<i>100 tons/year</i>	<i>27 tons/year</i>	<i>15 tons/year</i>	<i>15 tons/year</i>
<b>Exceed SJVAPCD Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

As shown in Table 4.3-3, construction-generated emissions would not exceed SJVAPCD significance thresholds.

In addition to the SJVAPCD criteria air pollutant thresholds, SJVAPCD Rule 9510, Indirect Source Review, aims to fulfill the District's emission reduction commitments in the PM<sub>10</sub> and O<sub>3</sub> attainment plans. This rule applies to the following construction projects within the jurisdiction of the SJVAPCD:

- 50 residential units
- 2,000 square feet of commercial space
- 25,000 square feet of light industrial space
- 100,000 square feet of heavy industrial space
- 20,000 square feet of medical office space
- 39,000 square feet of general office space
- 9,000 square feet of educational space
- 10,000 square feet of government space
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above.

This rule also applies to any transportation or transit project where construction exhaust emissions equal or exceed two tons of NO<sub>x</sub> or two tons of PM<sub>10</sub>. Project developers are required to reduce concentrations of NO<sub>x</sub> by 20 percent and PM<sub>10</sub> by 45 percent during construction activities.

The Project is proposing the construction of facilities associated with the Bellota Wier Modification Project. Portions of the facilities and component systems used to implement the Project would be fabricated offsite and assembled at the Project Site. Furthermore, Project construction activities would be restricted to specific limited areas within the 15.5-acre project site. The Project does not clearly fall within one of construction project types identified in Rule 9510 and is therefore not subject to this Rule. Criteria pollutant emissions generated during Project construction would not result in a violation of air quality standards and related impacts are **less than significant**.

#### **4.3.3.2 Operational Impacts**

Once construction is complete, no additional daily vehicle trips or personnel would be added to operate or maintain the proposed improvements beyond existing conditions. Thus, the Proposed Project would not include the provision of new permanent stationary or mobile sources of criteria air pollutant emissions, and therefore, by its very nature, would not generate quantifiable criteria emissions from Project operations. The only exception is a proposed onsite emergency generator. However, the generator would only be used in the event of a power outage at the site and only for the duration of the outage. Thus, criteria pollutant emissions generated during Project operation would not result in a violation of air quality standards and related impacts are **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include three single-family residences located across SR 26 to the west. Additionally, there is a single-family residence, fronting E. Sheldon Road, near the northeast corner of the Project.

**4.3.3.3 Construction Impacts**

**Construction-Generated Air Toxics**

Construction of the Project would result in temporary, short-term Project-generated emissions of the toxic air contaminant (TAC), DPM, as well as ROG, NO<sub>x</sub>, CO, and PM<sub>10</sub> from the exhaust of off-road, heavy-duty diesel equipment for site preparation/excavation (e.g., clearing, trenching); truck traffic; paving; and other miscellaneous activities. As discussed previously, the portion of the SJVAB which encompasses the Project Area is designated as a nonattainment area for the federal O<sub>3</sub> and PM<sub>2.5</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> (CARB 2019). Thus, existing O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> levels in the SJVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-3, the Project would not exceed and is well below the SJVAPCD significance thresholds for construction emissions.

Per SJVAPCD guidance, this analysis employs the SJVAPCD Prioritization Calculator health risk screening tool to assess the potential health risk-related effects of Project construction. The SJVAPCD Prioritization Calculator identifies a prioritization score based on the Project emission potency at the vicinity sensitive residential receptors. A prioritization score of 10 or greater, as determined by this screening protocol, is considered to be potentially significant and indicates that a detailed Health Risk Assessment (HRA) should be performed.

In addition to cancer risk, the significance thresholds for TAC exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. A chronic hazard index of 1.0 is considered individually significant.

The calculated carcinogenic risk and highest maximum chronic hazard indexes at the nearby sensitive residential receptors as a result of Project construction is depicted in Table 4.3-4.

<b>Table 4.3-4. Health Risk Summary</b>			
<b>Exposure Scenario</b>	<b>Maximum Cancer Risk at Residence</b>	<b>Maximum Chronic Hazard Index at Residence</b>	<b>Maximum Acute Hazard Index at Residence</b>
Project Construction	2.540	0.003	0.000
<i>SJVAPCD Screening Threshold</i>	<i>10.0</i>	<i>1.0</i>	<i>1.0</i>
<b>Exceed SJVAPCD Screening Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: SJVAPCD Prioritization Calculator. Refer to Appendix B for Model Data Outputs.

As shown in Table 4.3-4, impacts related to both cancer risk and non-cancer risk (chronic and acute hazard indexes) as a result of Project construction would not surpass the screening thresholds at the nearby sensitive residential receptor. Therefore, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

### **Valley Fever**

*Coccidioidomycosis* (CM), often referred to as San Joaquin Valley fever or Valley fever, is one of the most studied and oldest known fungal infections. Valley fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus (an organism that grows and feeds on dead or decaying organic matter) lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus *blooms* and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Valley fever (*Coccidioidomycosis*) is found in California, including the San Joaquin County. In about 50 to 75 percent of people, Valley fever causes either no symptoms or mild symptoms and those infected never seek medical care; when symptoms are more pronounced, they usually present as lung problems (cough, shortness of breath, sputum production, fever, and chest pains). The disease can progress to chronic or progressive lung disease and may even become disseminated to the skin, lining tissue of the brain (meninges), skeleton, and other body areas.

San Joaquin County is considered a highly endemic area for Valley fever. When soil containing this fungus is disturbed by ground-disturbing activities such as digging or grading, by vehicles raising dust, or by the

wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get valley fever. Fungal spores are small particles that can grow and reproduce in the body. The highest infection period for valley fever occurs during the driest months in California, between June and November. Infection from valley fever during ground-disturbing activities can be partially mitigated through the control of Project-generated dust. As noted, Project-generated dust would be controlled by adhering to SJVAPCD dust-reducing measures (Regulation VIII), which includes the preparation of a SJVAPCD-approved dust control plan describing all fugitive dust control measures that are to be implemented before, during, and after any dust-generating activity.

With minimal site grading and conformance with SJVAPCD Regulation VIII, dust from the construction of the Project would not add significantly to the existing exposure level of people to this fungus, including construction workers.

As discussed above, Project construction would not expose sensitive receptors to substantial pollutant concentrations and related impacts are **less than significant**.

**4.3.3.4 Operational Impacts**

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There would be no stationary sources associated with Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would not be a substantial source of TACs. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation and related impacts are **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor

fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

#### **4.3.3.5 Construction Impacts**

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the immediate source. Therefore, odors generated during Project construction would not adversely expose a substantial number of people to odor emissions and related impacts are **less than significant**.

#### **4.3.3.6 Operational Impacts**

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors and therefore operational odor impacts would also be **less than significant**.

#### **4.3.4 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

### **4.4 Biological Resources**

#### **4.4.1 Introduction**

This section presents an evaluation of the Project's potential biological resource impacts. The section assesses whether Project construction and operation would result in significant impacts to terrestrial and aquatic biological resources. It includes a description of the existing environmental conditions, regulatory setting, and the impacts associated with constructing and operating the Proposed Project. Where significant impacts are identified, feasible and effective mitigation measures are presented to reduce those impacts to levels considered less than significant.

Resource information presented herein is based on the following technical studies which are further described below:

- Aquatic Resources Delineation, Stockton East Water District “Bellota Weir Modifications Project” San Joaquin County, California (Moore Biological Consultants. 2022a) (IS/MND Appendix C-1).
- Biological Assessment, Stockton East Water District “Bellota Weir Modifications Project” San Joaquin County, California (Moore Biological Consultants. 2022b.) (IS/MND Appendix C-2).
- Biological Assessment of Potential Impacts of the Bellota Weir Modification Project on Fisheries Resources (FISHBIO. June 2022.) (IS/MND Appendix C-3).

#### **4.4.1.1 Aquatic Resources Delineation**

The Aquatic Resource Delineation (ARD) report delineates aquatic resources in the project site in accordance with the Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE 1987) and Arid West Region Regional Supplement (USACE 2008). The limit of federal jurisdiction of Waters of the U.S. [i.e., the ordinary high-water mark (OHWM)] along the bank of the aquatic features was identified by physical characteristics including a natural water line impressed on the bank, shelves, destruction of terrestrial vegetation, and/or the presence of litter and debris. The boundaries of the aquatic habitats were mapped using a Trimble GeoXT Global Positioning System (GPS) unit. The GPS data was corrected using the nearest available base station and combined with a 2020 Google Earth color aerial photograph in ArcGIS to create an aquatic resources delineation map. The acreage of Waters of the U.S. was calculated as the area below the OHWM. Results of the ARD are incorporated in the Terrestrial Biological Assessment and are presented below in the biological resources section. The ARD is subject to verification by the U.S. Army Corps of Engineers.

#### **4.4.1.2 Biological Assessment**

The Biological Assessment (BA) Stockton East Water District “Bellota Weir Modifications Project” (Terrestrial BA) was prepared to support Section 7 consultation with the USFWS and CEQA review. The Terrestrial BA includes an analysis of sensitive species, results of the ARD, and results of a Valley elderberry long horn beetle (VELB) survey. The Terrestrial BA is relied upon for analysis of Project impacts on plant and wildlife species, with the exception of fish which are addressed separately in the FISHBEIN report (discussed below).

The Terrestrial BA includes review of the USFWS Ipe Trust Report of Federally Threatened and Endangered species that may occur in or be affected by construction activities within the Project Area. A search of CDFW’s California Natural Diversity Database (CNDDDB, 2022) was also conducted. The CNDDDB search included the U.S. Geological Survey (USGS) 7.5-minute Clements, Wallace, Linden, Valley Springs SW, Peters, and Farmington topographic quadrangles, encompassing approximately 360 square miles around the project site. This information was used to identify wildlife and plant species that have been previously documented in the Project vicinity or have the potential to occur based on suitable habitat and geographical distribution. The USFWS online maps of designated critical habitat were also reviewed.

Moore Biological Consultants Diane Moore, M.S. and Colleen Laskowski, M.S. conducted field surveys of the site on March 20, 2020, July 2, 2021, and January 6 and July 13, 2022. The surveys were accomplished by walking throughout the site observing habitat conditions and noting surrounding land uses, general habitat types, and plant and wildlife species. The surveys included a delineation of potentially jurisdictional Waters of the U.S. as defined by the USACE (1987, 2008) and an assessment of the site for special-status species, and suitable habitat for special-status species.

Habitats in the site such as valley oak woodland and ruderal grassland were identified in the field and mapped on high-resolution aerial photographs. The habitat boundaries were then combined with a 2020 Google Earth color aerial photograph in ArcGIS to quantify acreages and create a map of habitat types.

Trees in and near the site were inspected for raptor stick nests and assessed for the potential use by nesting raptors, especially Swainson's hawk (*Buteo swainsoni*). The March and July surveys also included a survey for Swainson's hawks flying, perching, or foraging in or near the site.

Standard-protocol "burrow surveys" for burrowing owl (*Athene cunicularia*) were conducted as described in the CDFG's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The site was inspected for burrowing owls and/or burrows with evidence of burrowing owl occupancy such as pellets, feathers, and white-wash around the entrances to the burrows. Comprehensive visual inspection of potential burrowing owl habitat was accomplished walking meandering transects throughout the site, and scanning surrounding areas with binoculars.

An inventory of blue elderberry shrubs in the site was undertaken. Most of the blue elderberry (*Sambucus nigra* ssp. *caerulea*) shrubs in the site were identified and mapped in the field on high-resolution aerial photographs. A few shrubs in dense canopy were mapped using the GPS unit. The blue elderberry shrub location data was then combined with a Google Earth 2020 color aerial photograph in ArcGIS to generate a map of the locations of the blue elderberry shrubs in the site. The stems of the blue elderberry shrubs were also comprehensively inspected for fresh boreholes indicative of recently emerged valley elderberry longhorn beetles and none were detected.

#### **4.4.1.3 Biological Assessment of Potential Impacts of the Bellota Weir Modification Project on Fisheries Resources**

The Biological Assessment of Potential Impacts of the Bellota Weir Modification Project on Fisheries Resources (Fisheries BA) was prepared to support Section 7 consultation with the NMFS and CEQA review. The Fisheries BA is relied upon for analysis of Project impacts on fish species that may occur in the Project Area. The Fisheries BA review assessed the potential for special-status fish species to be exposed to the Project, the possible effects of the Project on those fish species, and recommendations to help avoid and mitigate any potential impacts.

Two readily accessible government websites were used to determine applicable critical habitat designations and fish species listed as threatened or endangered by the ESA. The first source was a Project-planning tool (Information for Planning and Conservation; IPaC) provided by the USFWS (2015; accessed March 15, 2022). The location used in the planning tool was a 30-acre area encompassing the designated Project Area. The IPaC data viewer and automated reporting system indicated that a critical



habitat designation was not found for fisheries resources managed by USFWS within or near the Project Area.

The second source utilized was the NOAA Fisheries website (NOAA 2015; accessed on March 15, 2022). GIS shapefiles were downloaded from the website and viewed using Google Earth Pro software. All shapefiles of critical habitat designations for ESA-listed Chinook salmon stocks, Central Valley steelhead, and sDPS green sturgeon were downloaded and examined for applicability to the Proposed Project.

#### **4.4.1.4 Mitigation Approach**

This Initial Study includes recommended mitigation measures to ensure all identified potential biological resource impacts are reduced to less than significant under CEQA. As an alternative, the SEWD may seek coverage for certain species under the San Joaquin County Multi-Species Conservation Plan (SJMSCP). Participation in the SJMSCP is voluntary and requires approval by the San Joaquin Council of Governments (SJCOG). Should the Project participate, biological resource mitigation could be implemented for the following species covered by the SJMSCP: Swainson's hawk, Tricolored blackbird, western pond turtle, and VELB. Under this approach, biological resource mitigation measures contained in this Initial Study would only be implemented for the balance of species impacts identified but not covered by the SJMSCP. Should the Project not participate in the SJMSCP, all recommended mitigation measures contained in this initial study would be implemented.

#### **4.4.2 Environmental Setting**

The existing Bellota Weir facility on the Mormon Slough/Calaveras River is owned and operated by SEWD to provide water to urban and agricultural users. The Bellota Weir has been documented as a known impediment to fish passage since at least 2007 (DWR 2007) and has remained a priority Project since this initial evaluation. The weir regulates the WSE in the Calaveras River to allow for diversions for municipal and agricultural use. The Bellota Intake feeds a pipeline located at the weir that provides municipal and industrial flow year-round to SEWD's municipal WTP and supplies irrigation water for agricultural users throughout the irrigation season (generally mid-April to mid-October).

The Old Calaveras Headworks (Headworks), located on the Old Calaveras River approximately 400 feet downstream of the Mormon Slough/Old Calaveras River divergence in parallel to the Bellota Intake, provides flow control and flood protection to downstream landowners on the Old Calaveras River during the rainy season by routing flood waters through Mormon Slough, provides irrigation flows during the irrigation season, and provides groundwater recharge year-round. The Calaveras River has naturally seasonal hydrology and periodically disconnects from the mainstem San Joaquin River, which occurred both prior to and after construction of New Hogan Dam.

The current configuration of the Bellota facilities (Weir, Intake and headworks) limits fish passage during a variety of stream flow conditions. During infrequent high-flow events (when flows actively spill over the existing Bellota Weir or the fish ladder is installed) passage may occur, but not frequently enough or of sufficient duration to provide reliable opportunity for volitional passage of native salmonids. It should be noted that Mormon Slough, the channel downstream of the Bellota Weir, is the primary migratory corridor for salmonids. While improvements at Headworks are designed to reduce entrainment issues to

the Old Calaveras, upstream migration issues for salmonids are not anticipated to be an issue due to downstream operations.

#### **4.4.3.1 Calaveras Habitat Conservation Plan**

Continued operation of the Bellota Weir, Bellota Intake, and Old Calaveras River Headworks diversion is guided by the CHCP (NOAA 2020). The CHCP provides operational criteria to support the biological goals of maintaining a viable population of threatened California Central Valley steelhead (*Oncorhynchus mykiss*) within the CHCP boundaries and maintaining adequate habitat conditions upstream of Bellota for fall-, late fall-, spring-, or winter-run Chinook salmon (*Oncorhynchus tshawytscha*) that may opportunistically migrate into the conservation area. While the CHCP includes actions to support the various runs of Chinook salmon when resources are available, conditions are not expected to maintain self-sustaining runs.

The CHCP allows SEWD to comply with the ESA, protecting and managing fishery resources and habitat while maintaining reliable water delivery to its constituents. Following NOAA Fisheries approval on August 11, 2020, SEWD is authorized for a 50-year Incidental Take Permit (ITP #23264), for ESA listed species under NOAA Fisheries authority.

The CHCP requires that the Bellota Weir, Bellota Intake, and Calaveras Headworks be upgraded or replaced. Specifically, the CHCP includes the following conservation targets:

**FP1 and AE1:** *Avoid migration delays and blockage, and entrainment within the Old Calaveras River Channel by constructing a non-entraining barrier at the Old Calaveras River Headworks Facility and at the downstream end of the channel near the confluence with the [Stockton Diverting Canal] within the first ten years of the ITP.*

**FP2/AE3:** *Construct and implement a combined crest gate/fishway/fish screen at the Bellota [Intake] Diversion Facility to improve [salmonid] passage into/out of the 18-mile spawning and rearing reach between Bellota and New Hogan Dam and to prevent fish entrainment; target completion within first five years, but no later than 10 years of [issuance of] the ITP.*

The Proposed Project is consistent with and implements the above targets.

#### **4.4.2.1 Site Characteristics and Existing Operations**

Historically, the Calaveras was a river of extremes, flooding in the winter and drying up in summer, with some sections going completely dry and creating disconnected pools. The original Hogan Dam was built in 1930 to protect the City of Stockton from flooding. New Hogan Dam was completed in 1963 to expand storage capacity of the reservoir from 75,062 to 317,000 acre-feet. The impoundment of New Hogan altered the river's historical flow patterns and provides a more consistent year-round flow of water downstream to the Bellota Weir and Intake Facility (Figure 4.4-1) as evidenced by the District's year-round flow commitment described in the CHCP.



**Figure 4.4-1. Current configuration of the Bellota Intake.**

The Bellota Weir was originally constructed in 1967 and in 1978, SEWD began the year-round operation of a gravity-fed diversion (maximum capacity of 75 cfs) at Bellota, for which low but sustained flows are released from New Hogan during non-flood control periods. Since 1978, when SEWD began diverting water at the Bellota Diversion, low but sustained flows have been provided year-round above Bellota in most years. Immediately downstream of Bellota, Mormon Slough was created in 1910 by the U.S. Army Corps of Engineers to convey flood waters to avoid flooding in the City of Stockton. Mormon Slough is a wide channel with steep banks and little to no overhead vegetation.

The Bellota Weir (Figure 4.4-2), located at the top of Mormon Slough immediately downstream of the divergence of Mormon Slough and the Old Calaveras River channel/Calaveras River Headworks, is a removable check dam (i.e., flashboards and stanchions; Figure 4.4-3). During the irrigation season (generally April 15- October 15), the height of the weir is increased to 8-ft to provide the hydraulic head needed for SEWD to divert Calaveras River water into the Bellota Intake for use in Potter Creek and the Dr. Joe Waidhofer WTP, or into the Headworks Facility for use in the Old Calaveras River channel. Further, flow control slide gates are installed on the face of Bellota Weir to divert flow into Mormon Slough. Generally, the Bellota Diversion is installed approximately April 15 and removed approximately October 15. In years when irrigation demand is above normal due to drier conditions, SEWD obtains variances from the Central Valley Flood Protection Board for earlier installations or later removals.



**Figure 4.4-2. Photo of Bellota Weir from ground level during high-flow event.**



**Figure 4.4-3. The 8-ft flashboard dam installed on upstream sill of the Bellota Weir.**

Upon removal of the 8-ft flashboard dam from the upstream edge of the Bellota Weir, SEWD typically replaces it directly with a two-ft temporary dam and fish ladder (Figure 4.4-4). The temporary dam is installed to provide the hydraulic head needed for SEWD to divert Calaveras River water either into the Bellota Intake for SEWD's WTP, or into the Headworks Facility for groundwater recharge in the Old Calaveras River channel. The fish ladder is installed to maximize upstream fish passage opportunities from the pool on the apron of Bellota Weir to areas above Bellota.



**Figure 4.4-4. Overhead view of the Bellota Weir with the temporary fish ladders installed.**

A second fish ladder is also installed at the downstream side of the Bellota Weir apron. This lower ladder was funded through the USFWS' Anadromous Fish Restoration Program and is installed to increase opportunities for upstream migrating fish to access the upper ladder.

Even with both ladders installed at the weir, fish passage is not always available and is reliant on particular flow regimes passing the weir. Flows greater than 10 cfs are needed prior to opening the upper ladder due to diversion constraints (i.e., at least 10 cfs is required to maintain enough head for diversion to occur at Bellota).

As part of SEWD's agricultural water delivery operations, flashboard dams are installed at twelve locations throughout Mormon Slough, beginning April 15 and removed from the river by November 1. This would effectively exclude all migrating adult salmonids from the Project Area during the anticipated in-water work window (mid-June to late October). Juvenile salmonids would both emerge and/or migrate prior to the anticipated work window and would therefore be unaffected by the Project. The in-water work window has been discussed with the construction management and engineering partners (KSN, Inc. and HDR, Inc., respectively) for the Project and any contracted construction service will be informed of this limitation.

The Proposed Project Area is bounded on its north side by Highway 26 and agricultural land and to the south by East Shelton Road. Land use in the area is predominantly agricultural, typified by large orchards surrounding the Proposed Project Area. The western end of the Project Area is the Escalon-Bellota Bridge, which is approximately 1,400 feet downstream of the divergence of the Calaveras River and Mormon Slough (Figure 4.4-5).



**Figure 4.4-5. Aerial view of the current configuration of the Project Area.**

Currently, the Project Area downstream of the Bellota Weir features degraded riprap on both banks in addition to thickets of various shrub and tree species that offer limited shaded riparian area and cover (Figure 4.4-6). Substrates in the Project Area consist of mixed gravel and sand/silt with the main channel running close to the southern bank during most of the year at low stream flow. Emergent vegetation occurs in the channel, consisting of sandbar willow (*Salix exigua*) and various annual grasses on dried areas near the channel when flows are low. Nonnative Himalayan blackberry (*Rubus discolor*) dominates the vegetation along the banks in certain areas immediately downstream of the Bellota Weir.



**Figure 4.4-6. View from above the weir showing habitat available downstream at lower flows.**

The upstream portion, immediately above the Bellota Weir, features a heavily riprapped northern bank with little overhead or emergent vegetation at all river stages. Further, the substrate in this area consists of

a mix of sand/silt/mud, coarse cobble, and riprap that has eroded into the channel. When the flashboard dam is in place at the Bellota Weir, this area ponds and resembles a lacustrine (rather than a riverine) environment and stream elevation becomes much higher. Habitat in the Old Calaveras Headworks channel appears more natural, with softer gradient banks with grasses and some overhead cover prior to the temporary exclusion net and the Headworks facility itself (Figure 4.4-7).



**Figure 4.4-7. The current configuration of the Old Calaveras Headworks at low flows.**

#### **4.4.2.2 *Vegetation Communities and Land Cover Types***

The project site and Study Area are shown in Figure 4.4-8 and includes SEWD's existing Bellota Weir facility located at the divergence of the Calaveras River. The Calaveras River splits in to two channels in the diversion pool, with the majority of the flows directed generally southwest and into Mormon Slough. The Old Calaveras River branches off to the west and conveys far less water than Mormon Slough. The Project Study Area includes the most upstream reaches of the Old Calaveras River and Mormon Slough and adjacent upland areas, and upland areas adjacent to the most downstream reach of the Calaveras River.

Surrounding land uses in this portion of San Joaquin County are primarily agricultural, with widely scattered residences consisting primarily of ranchette-style homes. Most of the parcels in the greater Project vicinity are farmed in orchard crops. There are also lesser acreages of vineyards and annual crops, and open grassland used primarily for livestock grazing.



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Source: Moore Biological Consultants

**Figure 4.4-8. Study Area Aerial Photo**  
2019-225 Bellota Weir Modifications Project

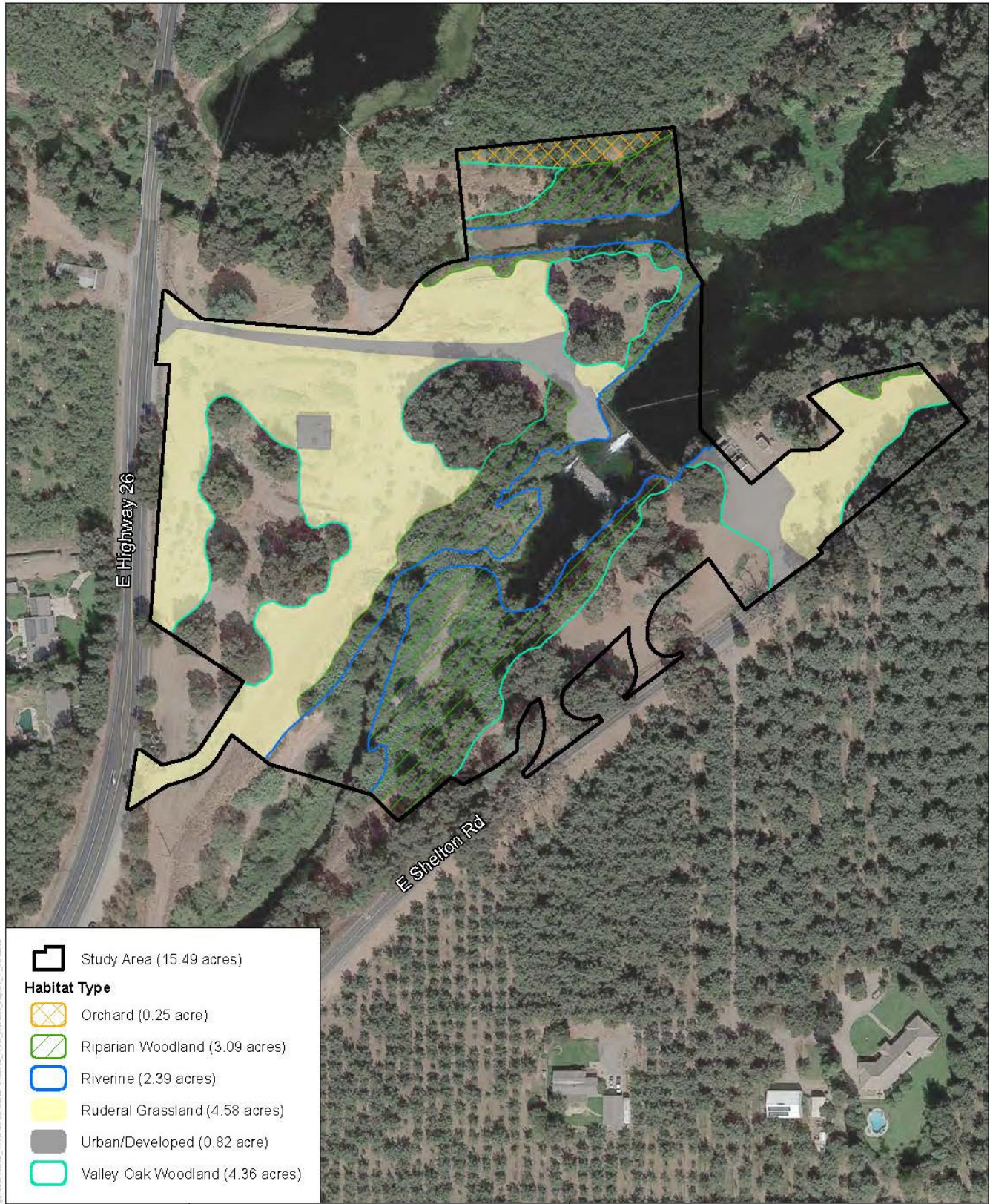


The site is comprised of a mosaic of grassland areas, patches of trees, previously developed areas, and aquatic habitats. Vegetation communities in the Project Site include annual ruderal grassland, valley oak woodland, and riparian woodland. These vegetation communities and wildlife habitat types generally correspond to the California Annual Grassland series, Valley Oak series, and Arroyo Willow series (Sawyer and Keeler-Wolf, 1995). Riverine habitats include the mainstem Calaveras River, Old Calaveras River and Mormon Slough. The project site and Study Area also contain a few developed areas and a strip of land along the edge of an orchard. The vegetation communities that occur on the Study Area are further described below. For vegetation community representative photos, see the Terrestrial Biological Assessment, Stockton East Water District Bellota Weir Modifications Project, Attachment C Photographs (contained in IS/MND Appendix C-2).

### **Ruderal Grassland**

Historically, the California Annual Grassland series was the most widespread upland vegetation type occurring in the greater Project vicinity and was comprised of native grass and weed species. In contrast, the grasslands in the site are subject to routine mowing and/or disking moderately to highly disturbed, comprised of primarily nonnative species, and best described as "ruderal grassland" vegetation. As shown in Figure 4.4-9, the Project Site contains 4.58± acres of ruderal grassland vegetation.

The grasslands in the site consist of common grasses and weeds and are moderately to highly disturbed. Wild oats (*Avena* sp.), soft chess brome (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), foxtail (*Hordeum murinum*), and perennial ryegrass (*Lolium perenne*) are dominant grass species. Other grassland species such as black mustard (*Brassica nigra*), yellow star-thistle (*Centaurea solstitialis*), field bindweed (*Convolvulus arvensis*), wild radish (*Raphanus sativa*), prickly lettuce (*Lactuca serriola*), Italian thistle (*Carduus pycnocephalus*), rose clover (*Trifolium hirtum*), vetch (*Vicia villosa*), and filaree (*Erodium* sp.) are intermixed with the grasses. Table 4.4-1 is a list of plant species observed in the site.



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Source: Moore Biological Consultants

**Figure 4.4-9. Habitat Types**

2019-225 Bellota Weir Modifications Project

## Valley Oak Woodlands

The Valley Oak series (Sawyer and Keeler-Wolf, 1995) best describes the oak woodland habitats in the site. The Project Site contains 4.36± acres of valley oak woodland vegetation.

<b>Table 4.4-1. Plant Species Observed in the Site</b>	
<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer negundo</i>	box elder
<i>Acmispon americanus</i>	bird's-foot trefoil
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Amsinckia menziesii</i>	rancher's fireweed
<i>Arundo donax</i>	giant reed
<i>Avena sp.</i>	Wild oat
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus hordeaceus</i>	soft chess brome
<i>Bromus madritensis</i>	compact brome
<i>Capsella bursa var. pastoris</i>	shepherd's purse
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cedrus deodara</i>	deodar cedar
<i>Centaurea solstitialis</i>	yellow star-thistle
<i>Cerastium glomeratum</i>	mouse-eared chickweed
<i>Chamomilla suaveolens</i>	pineapple weed
<i>Cirsium vulgare</i>	bull thistle
<i>Claytonia perfoliate</i>	miner's lettuce
<i>Conium maculatum</i>	poison hemlock
<i>Convolvulus arvensis</i>	morning glory
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cyperus eragrostis</i>	tall flat sedge
<i>Datura stramonium</i>	Jimsonweed
<i>Dittrichia graveolens</i>	stinkwort
<i>Epilobium brachycarpum</i>	annual fireweed
<i>Eremocarpus setigerus</i>	turkey mullein
<i>Erigeron canadensis</i>	Canadian horseweed
<i>Erodium botrys</i>	filaree
<i>Fraxinus latifolia</i>	Oregon ash
<i>Galium aparine</i>	common bedstraw
<i>Geranium molle</i>	geranium
<i>Geranium dissectum</i>	cut-leaf geranium
<i>Helenium puberulum</i>	rosilla

<b>Table 4.4-1. Plant Species Observed in the Site</b>	
<b>Scientific Name</b>	<b>Common Name</b>
<i>Holcus lanatus</i>	common velvet grass
<i>Hordeum murinum</i>	foxtail
<i>Juglans californica</i>	black walnut
<i>Lactuca serriola</i>	prickly lettuce
<i>Lamium amplexicaule</i>	clasping henbit
<i>Liquidamber styraciflua</i>	sweetgum
<i>Lolium perenne</i>	perennial ryegrass
<i>Magnolia grandiflora</i>	magnolia
<i>Malva neglecta</i>	common mallow
<i>Marah fabaceus</i>	California manroot
<i>Melilotus alba</i>	white sweet clover
<i>Mentha pulegium</i>	pennyroyal
<i>Paspalum dilatatum</i>	golden crown grass
<i>Phytolacca americana</i>	pokeberry
<i>Poa annua</i>	annual bluegrass
<i>Polygonum aviculare</i>	prostrate knotweed
<i>Quercus lobata</i>	valley oak
<i>Quercus suber</i>	cork oak
<i>Raphanus sativus</i>	wild radish
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	curly dock
<i>Salix goodingii</i>	Gooding's black willow
<i>Salix exigua</i>	narrow-leaved willow
<i>Sambucus nigra ssp. caerulea</i>	blue elderberry
<i>Senecio vulgaris</i>	common groundsel
<i>Sonchus oleraceus</i>	common sowthistle
<i>Sorghum halepense</i>	Johnsongrass
<i>Silybum marianum</i>	milk thistle
<i>Tribulus terrestris</i>	puncture vine
<i>Trifolium hirtum</i>	rose clover
<i>Triteleia laxa</i>	Ithuriel's spear
<i>Urtica dioica</i>	stinging nettle
<i>Verbena lasiostachys</i>	common verbena
<i>Vicia villosa</i>	hairy vetch
<i>Vitis californica</i>	California wild grape

This series is found both on the Valley Floor and the Sierra Foothills, with valley oaks as the sole or dominant tree species. While coastal live oaks (*Quercus agrifolia*), blue oaks (*Quercus douglasii*), and black

oaks (*Quercus kelloggii*) may be present in lesser numbers, valley oak is the only native oak in the valley oak woodlands in the site. There are a few ornamental trees intermixed in the valley oak woodlands including cork oak (*Quercus suber*), magnolia (*Magnolia grandiflora*), deodar cedar (*Cedrus deodara*), and sweetgum (*Liquidambar styraciflua*). The understory herbaceous layer is composed of a subset of the annual grasses and weeds occurring in nearby grasslands.

### **Riparian Woodlands**

The Arroyo Willow series (Sawyer and Keeler-Wolf, 1995) best describes the riparian woodland habitats in the site. The site contains 3.09± acres of riparian woodland vegetation.

Dominant trees in the riparian woodland vegetation near the Calaveras River, the Old Calaveras River and Mormon Slough include box elder (*Acer negundo*), Oregon ash (*Fraxinus latifolia*), Goodding's black willow (*Salix gooddingii*), narrow-leaved willow (*Salix exigua*), and black walnut (*Juglans californica*). California wild rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and California wild grape (*Vitis californica*) are dominant shrubs and vines in and near the site. There are also patches of giant reed (*Arundo donax*) in the riparian woodlands.

As shown in Figure 4.4-10, ten blue elderberry shrubs exist onsite within the Study Area. Seven of these shrubs (shrubs 2, 3, 4, 5, 6, 7 and 8) are along the south bank of the Old Calaveras River within riparian woodland, two (shrubs 9 and 10) are along the banks of Mormon Slough below the existing weir within riparian woodland (one on each side of Mormon Slough), and one (shrub 1) is in an urban/developed area (growing within an alcove of an old office building) located approximately 230 feet east of Highway 26 (see Figure 4.4-10). The blue elderberry shrubs range from approximately 8 to 15 feet in height and all of the shrubs have multiple stems.

### **Riverine**

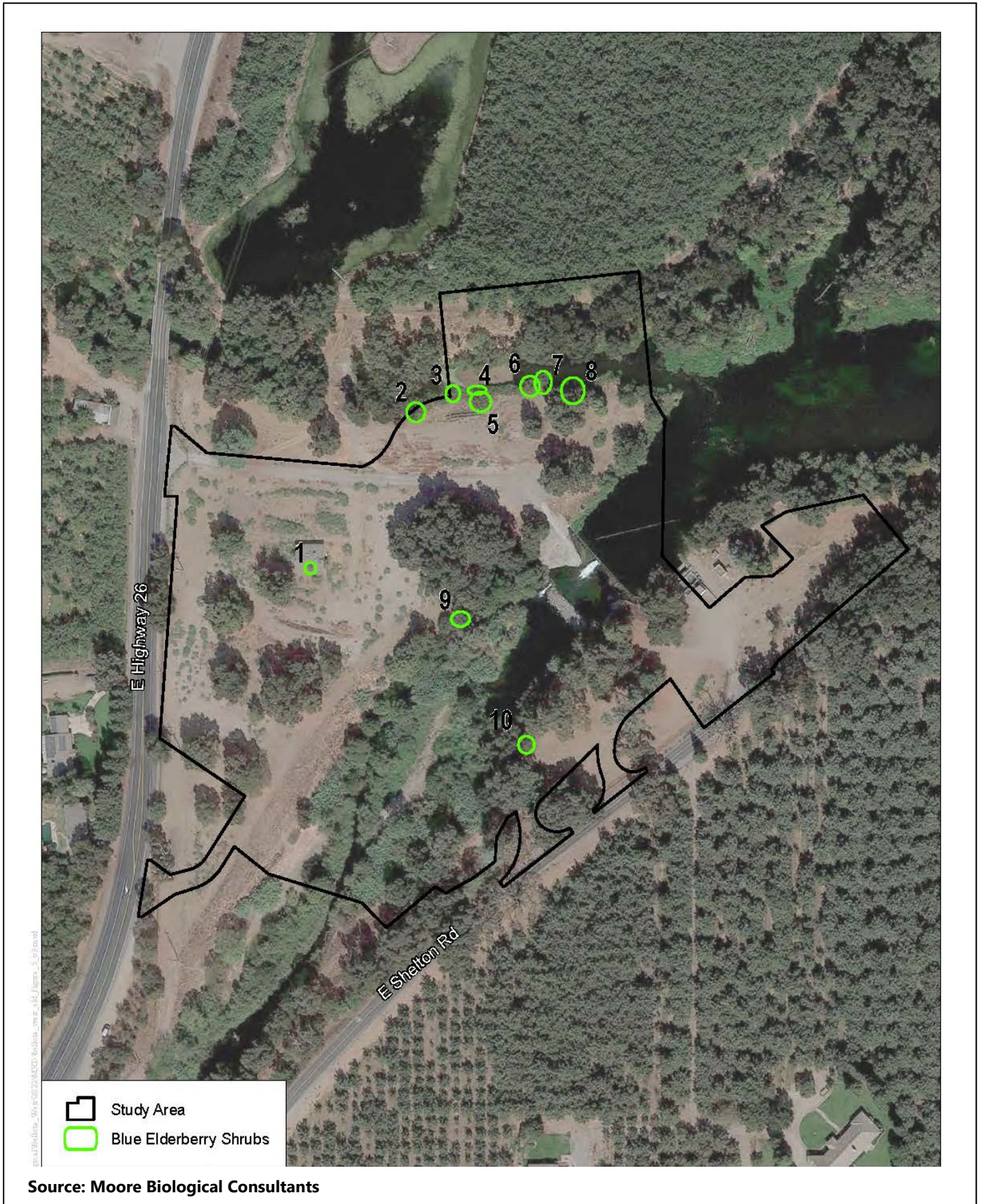
Aquatic (riverine) habitats in and adjacent to the site include the Calaveras River, Old Calaveras River, and Mormon Slough. As shown in Figure 4.4-11, the project site contains 2.39± acres of riverine habitats. These aquatic habitats have directional flow, generally flowing east to west. The riverine habitats, at and near the waterline, support a generally narrow and discontinuous fringe of willow seedlings, tall flat sedge (*Cyperus eragrostis*), pennyroyal (*Mentha pulegium*), and other emergent wetland vegetation.

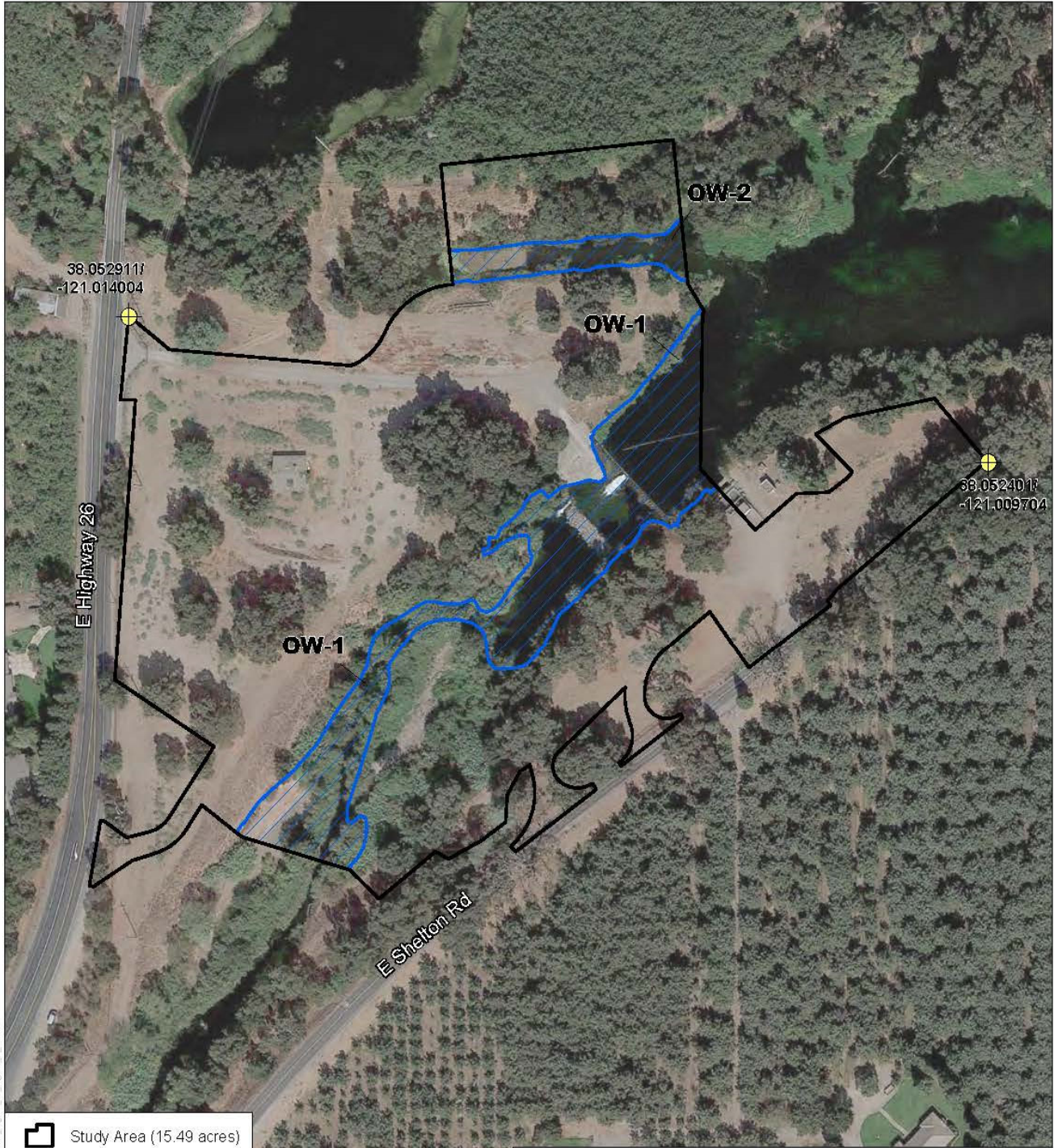
### **Orchard**

Most of the parcels surrounding the project site are planted in intensively cultivated orchards and vineyards. The majority of the orchards in the vicinity are walnuts and almonds. The Project Site contains 0.25± acres of land along the edge of a walnut orchard (see Figure 4.4-9).

### **Urban/Developed**

As shown in Figure 4.4-9, the Project Site contains 0.82± acres of previously developed areas that are best described as urban or developed. Urban/developed habitats in the site include buildings, paved and gravel areas, and areas of rock.





 Study Area (15.49 acres)

**Data Disclaimer:**  
 The delineation has been done in accordance with the 1987 Wetlands Delineation Manual, US Army Corps of Engineers and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.

**AQUATIC RESOURCES**

Feature	Label	Area	
		(sf)	(acre)
 Other Waters	OW-1 (Mormon Slough)	89,304	2.05
	OW-2 (Old Calaveras River)	14,687	0.34
<b>Total</b>		<b>103,991</b>	<b>2.39</b>

**Source: Moore Biological Consultants**

**Figure 4.4-11. Aquatic Resources**  
 2019-225 Bellota Weir Modifications Project

### **4.4.2.3 Aquatic Resources**

As shown in Figure 4.4-11, per the Project's ARD (subject to USACE verification), a total of 2.39± acres of aquatic habitats were delineated within the site. This total includes 2.05± acres of Mormon Slough and 0.34± acres of the Old Calaveras River. The remainder of the site is vegetated in ruderal upland grassland vegetation, with soils that appear well draining. While the Calaveras River channel is just outside (upstream) of the Project Site boundary, the east tip of the site is adjacent to the south bank of the Calaveras River.

The Calaveras River, Old Calaveras River, and Mormon Slough are Waters of the U.S. subject to Section 404 of the Clean Water Act. These waterways also fall under the jurisdiction of CDFW, Central Valley Regional Water Quality Control Board (CVRWQCB), and the Central Valley Flood Protection Board (CVFPB). The OHWMs along the banks of the rivers are the limits of Clean Water Act jurisdiction; there are no adjacent wetlands along these features.

The Calaveras River and Mormon Slough riparian corridors in and adjacent to the site consist of broad alluvial channels associated with relatively steep banks. The mean width of Mormon Slough within the site is approximately 90 feet from OHWM to OHWM. In contrast, the Old Calaveras River is only about 40 feet wide. The open water habitats are primarily low gradient run and pool habitats with gravel, cobble, and clay substrates. The river banks are vegetated with riparian vegetation, and willows, box elder, and Oregon ash comprise the dominant overstory species at and near the water line; valley oaks are also present a bit higher on the banks.

There are no wetlands in or adjacent to the project site. The remainder of the site is vegetated in ruderal upland grassland vegetation, with soils that appear well draining. No areas were observed in the site with 50 percent or greater of the dominant plant species or rated as obligate, facultative, or facultative wetland species. No artificial or natural drainages or topographic basins were observed in the site. Further, no areas with evidence of inundation, saturated soils, algal matting, or surface soil cracks were observed in the site.

### **4.4.2.4 Soils**

Hydric soil is a soil that is saturated, flooded, or inundated for long enough to develop conditions that favor the growth of hydrophytic plants. Soil color reflects the presence of water in the soil and is the primary factor used to determine whether or not a soil is hydric. The Munsell Soil Chart (Munsell 1988), classifies soils according to three criteria: 1) color; 2) lightness or darkness of the color (i.e., hue); and 3) chroma, which is the purity or saturation of the color, is used to visually determine soil color. Hydric soils usually have a low chroma value and often contain redoximorphic features such as redox concentrations (mottles, oxidized rhizospheres), and redox depletions that are areas of different color interspersed within the dominant matrix color of the soil.

Soil types in the Project Site include Cognia loam, 0 to 2 percent slopes, Columbia fine sandy loam, drained, 0 to 2 percent slopes, MLRA 17, and Redding gravelly loam, 0 to 8 percent slopes, dry (USDA SCS, 1992). Cognia loam, 0 to 2 percent slopes and Redding gravelly loam, 0 to 8 percent slopes, dry are



described as “well drained” and “moderately well drained”, respectively. Neither of these soils are classified as a “hydric soil”, but both contain inclusions of hydric soils. The small patch of Columbia fine sandy loam, drained, 0 to 2 percent slopes, MLRA 17, which is outside the limits of disturbance, is described as “somewhat poorly drained” and is classified as a hydric soil (USDA NRCS, 2012). For the location of onsite soil types, see IS/MND Appendix C-2, Aquatic Resources Delineation, Figure 3 Soils Map.

Soil samples were not warranted during the aquatic resources delineation as aquatic areas in the site are restricted to the Old Calaveras River and Mormon Slough, both of which have an obvious OHWM. No areas supporting wetland vegetation, and therefore requiring soil evaluation, were observed on the banks of the rivers above the OHWMs or elsewhere in the site (Moore Biological Consultants 2022a).

#### **4.4.2.5 Terrestrial Wildlife**

The ruderal grasslands in the site are routinely mowed and/or disked and provide low-quality, but potentially suitable foraging habitat for a variety of bird species. In contrast, the riparian woodlands and riparian scrub associated with the riparian corridors in the site provide habitat for a wide variety of wildlife species. In addition to resident wildlife, the Project Site provides seasonal habitats for a wide variety of migratory wildlife, including numerous birds. Wildlife species documented in the project site are listed in Table 4.4-2 and are discussed below.

#### **Birds**

A variety of bird species were observed during the field surveys; the majority of these are common species found in agricultural and riparian areas of San Joaquin County. A few birds were observed flying around and over the site and perching in trees and shrubs during the field surveys. Great egret (*Ardea alba*), mallard (*Anas platyrhynchos*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma californica*), acorn woodpecker (*Melanerpes formicivorus*), and northern flicker (*Colaptes auratus*), black phoebe (*Sayornis nigricans*), and are representative avian species observed in the site.

<b>Table 4.4-2. Wildlife Species Documented in the Site</b>	
<b>Birds</b>	
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Canada goose	<i>Branta canadensis</i>
Wood duck	<i>Aix sponsa</i>
Mallard	<i>Anas platyrhynchos</i>
Osprey	<i>Pandion haliaetus</i>
Turkey vulture	<i>Cathartes aura</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>

<b>Table 4.4-2. Wildlife Species Documented in the Site</b>	
<b>Birds</b>	
Red-tailed hawk	<i>Buteo jamaicensis</i>
Wild turkey	<i>Meleagris gallopavo</i>
California gull	<i>Larus californicus</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Great-horned owl	<i>Bubo virginianus</i>
Acorn woodpecker	<i>Melanerpes formicivorus</i>
Northern flicker	<i>Colaptes auratus</i>
Black phoebe	<i>Sayornis nigricans</i>
Tree swallow	<i>Tachycineta bicolor</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
California scrub jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
Bushtit	<i>Psaltriparus minimus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Western bluebird	<i>Sialia mexicana</i>
American robin	<i>Turdus migratorius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
European starling	<i>Sturnus vulgaris</i>
Spotted towhee	<i>Pipilo maculatus</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
Bullock's oriole	<i>Icterus bullockii</i>
House finch	<i>Carpodacus mexicanus</i>
<b>Mammals</b>	
Pocket gopher	<i>Thomomys bottae</i>
Raccoon	<i>Procyon lotor</i>
Mule deer	<i>Odocoileus hemionus californicus</i>
<b>Reptiles and Amphibians</b>	
Western fence lizard	<i>Sceloporus occidentalis</i>
Bullfrog	<i>Rana catesbeiana</i>
Pacific chorus frog	<i>Pseudacris regilla</i>

There are numerous trees in and near the site that are suitable for nesting raptors and other protected migratory birds, including Swainson's hawk. However, the site is also along the east edge of the nesting range of this species and Swainson's hawks are not widespread in this part of the County. It is likely common raptor species utilize habitats in the site for nesting each year. Red-tailed hawks and red-shouldered hawks (*Buteo lineatus*) were observed flying over the site, perching in trees in and near the site, and calling during the May and July surveys; these raptors were likely nesting in trees near the site.

There is an osprey (*Pandion haliaetus*) nest on a nesting platform just north of the Old Calaveras River (see photographs in Appendix C-2).

Given the presence of trees and shrubs in and near the site, and emergent wetland vegetation in the Calaveras River, Old Calaveras River, and Mormon Slough, it is likely a variety of songbirds and other protected birds nest within trees, shrubs, and other vegetation in and adjacent to the site each year. There is a notable heron and egret rookery along the north bank of the Calaveras River just east of the site (see photographs in Appendix C-2). Ground-nesting songbirds such as killdeer (*Charadrius vociferus*) and red-winged blackbird (*Agelaius phoeniceus*) may nest in the grasslands or on the ground in the site.

### **Mammals**

A variety of mammals common to riparian and agricultural areas are expected to occur in the site. Burrows from Botta's pocket gopher (*Thomomys bottae*) and tracks from raccoon (*Procyon lotor*) were observed in the site during the field surveys. Scat from California mule deer (*Odocoileus hemionus californicus*) was also observed. Common mammals such as coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), striped skunk (*Mephitis mephitis*), desert cottontail (*Sylvilagus audubonii*), and Virginia opossum (*Didelphis virginiana*) may occur in the site. A few species of common bats may roost in some of the trees in the site. The site also provides habitat for a number of species of small rodents including mice (*Mus musculus*, *Reithrodontomys megalotis*, and *Peromyscus maniculatus*) and voles (*Microtus californicus*).

### **Amphibians and Reptiles**

Based on habitat types present, a variety of amphibians and reptiles may use habitats in the Study Area. Western fence lizard (*Sceloporus occidentalis*) was the only reptile observed in the Study Area; American bullfrog (*Rana catesbeiana*) and Pacific chorus frog (*Pseudacris regilla*) were the only amphibians observed. Red-eared slider (*Trachemys scripta elegans*) and Western pond turtle (*Actinemys marmorata*) may be present in the Calaveras River, Old Calaveras River, and Mormon Slough in or near the project site. Common reptiles and amphibians such as western skink (*Plestiodon skiltonianus*), northern alligator lizard (*Elgaria coerulea*), common garter snake (*Thamnophis sirtalis*), and gopher snake (*Pituophis melanoleucus*) are known to occur in the greater Project vicinity and may occur in the site.

#### **4.4.2.6 Special-Status Terrestrial Species**

The likelihood of occurrence of listed, candidate, and other terrestrial special-status plant and wildlife species in the project site is generally low. Terrestrial BA Table 3 Special-Status Plant and Wildlife Species Documented or Potentially occurring in the Project Vicinity (see IS/MND Appendix C-2) provides a summary of the listing status and habitat requirements of special-status terrestrial species that have been documented in the greater Project vicinity or for which there is potentially suitable habitat in the greater Project vicinity. This table also includes an assessment of the likelihood of occurrence of each of these species in the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations. Results are summarized below.

### **Special-Status Plants**

Ten special-status plant species were identified in the CNDDDB (CDFW 2022) search area: lone manzanita (*Arctostaphylos myrtifolia*), Hoover's calycadenia (*Calycadenia hooveri*), Tuolumne button celery (*Eryngium pinnatisectum*), delta button celery (*Eryngium racemosum*), Parry's horkelia (*Horkelia parryi*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii* var. *myersii*), Patterson's navarretia (*Navarretia paradoxiclara*), and Greene's tuctoria (*Tuctoria greenei*). Fleshy owl's clover (*Castilleja campestris* ssp. *succulenta*) is the only plant identified on the USFWS IPaC Trust Report.

The special-status plants identified occur in specialized habitats such as vernal pools, cismontane woodland, chaparral, or meadows and seeps. The mainstem Calaveras River, Old Calaveras River and Mormon Slough do not provide suitable aquatic habitat for any of the special-status plants identified in the CNDDDB or the IPaC Trust Report. The grasslands in the site have been disturbed by construction and operation of the irrigation intake, and periodic disking and/or mowing for weed abatement. No special-status plants were observed in the site. Further, no high quality or even moderately suitable habitat for special-status plants was observed in the site. Due to a lack of suitable habitat, it is unlikely any special-status plants occur in the site and thus special-status plants are not addressed further.

### **Special-Status Wildlife**

The potential for intensive use of habitats within the Project Site by special-status terrestrial wildlife species is generally low. Swainson's hawk, bank swallow (*Riparia riparia*), burrowing owl, tricolored blackbird (*Agelaius tricolor*), yellow-breasted chat (*Icteria virens*), pallid bat (*Antrozous pallidus*), giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), western pond turtle, western spadefoot (*Spea hammondi*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and VELB (*Desmocerus californicus dimorphus*) are special-status wildlife species identified in the CNDDDB (2022) query. The USFWS IPaC Trust Report includes a few of these same species and also includes conservancy fairy shrimp (*Branchinecta conservatio*), and monarch butterfly (*Danaus plexippus*).

While the Project vicinity may have provided habitat for several special-status wildlife species in the past, agriculture, development, and construction and maintenance of roads and irrigation facilities on and/or adjacent to the site have modified the natural habitats and associated potential to support special-status terrestrial wildlife species. Of the wildlife species listed in Terrestrial BA Table 3 (see IS/MND Appendix C-2), Swainson's hawk, tricolored blackbird, western pond turtle, and VELB have potential to occur in the site on more than a transitory or very occasional basis.

### **Other Special-Status Terrestrial Species**

Except for Swainson's hawk and tricolored blackbird, a few other special-status birds may fly over or forage in the area on occasion, but are not expected to nest or extensively utilize the habitats within the project site. For example, bank swallow may nest along other portions of Mormon Slough, the Old Calaveras River, or the mainstem Calaveras River, but the immediate Project Site does not provide suitable

nesting habitat for this species. Yellow-breasted chat is not known from the area and there is no highly suitable nesting habitat for burrowing owl in the site.

The site does not provide roosting habit for pallid bat, which prefers rocky areas for roosting; this bat and other common bat species may fly over or forage in the site.

There are no potential breeding ponds in or near the site for California tiger salamander and also no suitable breeding ponds for western spadefoot. The Calaveras River, Old Calaveras River, and Mormon Slough in and near the site do not provide suitable habitat for giant garter snake, which does not occur in large rivers with introduced populations of large predatory fish.

There are no vernal pools or seasonal wetlands in the site for vernal pool branchiopods (i.e., fairy, tadpole, and conservancy shrimp). Finally, monarch butterfly would not be expected to occur in the site and no extensive areas of milkweed, in which monarch larvae rely, were observed in the site.

### **Terrestrial Wildlife Species Critical Habitat**

As discussed in the Terrestrial BA, the site is not within designated critical habitat for California red-legged frog (USFWS, 2006), federally listed vernal pool shrimp or plants (USFWS, 2005a), California tiger salamander (USFWS, 2005b), VELB (USFWS, 1980), or other federally listed terrestrial species (see Appendix C-2, Terrestrial BA Appendix D).

#### **4.4.2.7 Fisheries Resources**

Based on data available from the University of California, Davis PISCES database (University of California, Davis 2017), native fish known to historically occur near the Project Area include multiple runs of Chinook salmon (*O. tshawytscha*), Central Valley steelhead (*O. mykiss*), threespine stickleback (*Gasterosteus aculeatus*), Pacific lamprey (*Entosphenus tridentatus*), prickly sculpin (*Cottus asper*), riffle sculpin (*Cottus gulosus*), Sacramento blackfish (*Orthodon microlepidotus*), Sacramento perch (*Archoplites interruptus*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento sucker (*Catostomus occidentalis*), Sacramento tule perch (*Hysterocharys traskii traskii*), sDPS green sturgeon (*Acipenser medirostris*), thicktail chub (*Gila crassicauda*), western brook lamprey (*Lampetra richardsoni*), and white sturgeon (*Acipenser transmontanus*) (Table 4.4-3).

Nonnative species that may be present in the lowest reaches of Mormon Slough/Old Calaveras River include American shad (*Alosa sapidissima*), bigscale logperch (*Percina macrolepida*), black crappie (*Pomoxis nigromaculatus*), blue catfish (*Ictalurus furcatus*), bluegill sunfish (*Lepomis macrochirus*), brown trout (*Salmo trutta*), channel catfish (*Ictalurus punctatus*), common carp (*Cyprinus carpio*), fathead minnow (*Pimephales promelas*), goldfish (*Carassius auratus auratus*), red shiner (*Cyprinella lutrensis*), redear sunfish (*Lepomis micolophus*), smallmouth bass (*Micropterus dolomieu*), spotted bass (*Micropterus punctulatus*), striped bass (*Morone saxatilis*), threadfin shad (*Dorosoma petenense*), wakasagi (*Hypomesus nipponensis*), warmouth (*Lepomis gulosus*), white catfish (*Ameiurus catus*), and white crappie (*Pomoxis annularis*). In addition to these species that may have utilized the Calaveras River watershed, green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), and western

mosquitofish (*Gambusia affinis*) have been observed approximately 5.5 miles upstream during operation of a rotary screw trap at the Shelton Rd. Bridge Crossing (RM 26) over the past five years.

Two readily accessible government websites were used to determine applicable critical habitat designations and fish species listed as threatened or endangered by the ESA. The first source was a Project-planning tool (IPaC) provided by the U.S. Fish and Wildlife Service (USFWS 2015; accessed March 15, 2022). The location used in the planning tool was a 30-acre area encompassing the designated Project Area. The IPaC data viewer and automated reporting system indicated that a critical habitat designation was not found for fisheries resources managed by USFWS within or near the Project Area.

The second source utilized was the NOAA Fisheries website (NOAA 2015; accessed on March 15, 2022). GIS shapefiles were downloaded from the website and viewed using Google Earth Pro software. All shapefiles of critical habitat designations for ESA listed Chinook salmon stocks, Central Valley steelhead, and sDPS green sturgeon were downloaded. Examination of the shape files revealed that critical habitat for the sDPS green sturgeon includes waterways nearest the confluence with the San Joaquin River, well downstream of the Project Area. The entirety of the Calaveras River below New Hogan Dam has been designated as critical habitat for Central Valley steelhead. No critical habitat designations were observed for either Central Valley spring-run or Sacramento River winter-run Chinook salmon in the Calaveras River.

### **Special-Status Fish Species**

Based on the above information, special-status fish species with potential to occur within the Project Study Area are listed in Table 4.4-4. As shown, these include:

- Chinook salmon (*O. tshawytscha*)
- Central Valley steelhead (*O. mykiss*)
- These species are further described below.

<b>Table 4.4-3. Non-ESA-listed native fish species that historically utilized habitat near the Project Area, irrespective of temporal distribution.</b>			
<b>Common Name</b>	<b>Species</b>	<b>Origin</b>	<b>Demersal/ Pelagic</b>
Chinook salmon – Central Valley fall/late fall-run ESU	<i>Oncorhynchus tshawytscha</i>	Native	Pelagic
Pacific lamprey	<i>Entosphenus tridentatus</i>	Native	Demersal
Prickly sculpin	<i>Cottus asper</i>	Native	Demersal
Riffle sculpin	<i>Cottus gulosus</i>	Native	Demersal
Sacramento blackfish	<i>Orthodon microlepidotus</i>	Native	Pelagic
Sacramento hitch	<i>Lavinia exilicauda</i>	Native	Pelagic
Sacramento pikeminnow	<i>Ptychocheilus grandis</i>	Native	Pelagic

**Table 4.4-3. Non-ESA-listed native fish species that historically utilized habitat near the Project Area, irrespective of temporal distribution.**

Common Name	Species	Origin	Demersal/ Pelagic
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	Native	Pelagic
Sacramento sucker	<i>Catostomus occidentalis</i>	Native	Demersal
Sacramento perch	<i>Archoplites interruptus</i>	Native	Pelagic
Sacramento–San Joaquin tule perch	<i>Hysterocarpus traskii</i>	Native	Pelagic
Thicktail chub	<i>Gila crassicauda</i>	Native	Pelagic
Threespine stickleback	<i>Gasterosteus aculeatus</i>	Native	Pelagic
White sturgeon	<i>Acipenser transmontanus</i>	Native	Demersal

**Table 4.4-4. Federal/State endangered or threatened fish species summary table for the construction site.**

Species	Listing Status <sup>1</sup>	Listing Agency	Potentially Present During Construction	Potential Critical Habitat Present	Potential to be Impacted
Central Valley steelhead (adult)	FT	NMFS	Y <sup>2</sup>	Y	Y
Central Valley steelhead (juvenile)	FT	NMFS	Y <sup>3</sup>	Y	Y
Central Valley spring-run Chinook salmon (adult)	FT / ST	NMFS / CDFW	N <sup>4</sup>	N	N
Central Valley spring-run Chinook salmon (juvenile)	FT / ST	NMFS / CDFW	N <sup>5</sup>	N	N

<sup>1</sup> Listing status: F = Federal, S = State, T = Threatened, E = Endangered

<sup>m</sup> Species is migratory and may be present short-term during migration

<sup>2</sup>Hallock 1989, <sup>3</sup> Moyle et al. 2008, <sup>4</sup> Cramer and Demko 1997, <sup>5</sup> Yoshiyama et al. 1998

### **Chinook salmon**

Fall run Chinook salmon are not currently listed under the ESA. They are, however, listed as a Species of Special Concern under the California ESA due to concerns about population size and dependence on hatcheries. Fall run Chinook salmon have used the Calaveras River opportunistically, with strays from other basins entering when conditions permit. Adult Fall run Chinook salmon typically migrate to spawning grounds in the San Joaquin River tributaries from September through December. If present, adult salmon typically spawn upstream of Bellota.

In years when adult salmon migrate into the Calaveras River, juveniles may be produced and may rear in the primary spawning and rearing reach upstream of Bellota until ready to begin their seaward migration. Juvenile salmon migration from the San Joaquin tributaries occurs between January and June, with peak migration from February through May.

Files downloaded from the NOAA website show that the Project Area does not lie within designated critical habitat for spring-run Chinook salmon, however, there is currently an effort to restore this run to historic spawning grounds in the upper San Joaquin River. Central Valley Spring Run Chinook salmon were originally listed as “threatened” under the ESA in September 1999 (NOAA 1999) and an updated review of their status in April 2014 maintained that “threatened” designation (NOAA 2014). Spring Run Chinook salmon have designated critical habitat in San Joaquin County (NOAA 2005) based on historic occurrence, but the overall size of a naturally occurring population in the San Joaquin River is poorly understood due to their low catch rates and the presence of a recently introduced “experimental” hatchery-origin population. The NOAA ESU definition specifically refers to naturally spawned Spring Run Chinook salmon originating from the Sacramento River and its tributaries, and those salmon originating from the Feather River Hatchery Spring-Run Chinook Program.

In recent years, the San Joaquin River Restoration Program (SJRRP) has taken steps to reintroduce Spring Run Chinook salmon to the San Joaquin River. Adult spring-run Chinook salmon produced by the SJRRP began returning to the Restoration Area on the lower San Joaquin River in 2019. Six Passive Integrated Transponder-tagged adult salmon were detected on antennas in the Stanislaus River in 2021 that had been released as yearlings from the SJRRP Salmon Conservation and Research Facility in 2019. Early running adult salmon believed to be returns from the SJRRP were also observed on the Tuolumne River in 2021. Based on the best available information, no Spring Run Chinook salmon have been observed in the Calaveras River to date. It is unlikely that returns from the SJRRP would stray into the Calaveras River given that their upstream migration occurs when flashboard dams are in place.

### **Central Valley Steelhead**

*O. mykiss* is a species of salmonid native to California, commonly known as steelhead (the anadromous form) or rainbow trout (the resident/freshwater form). The California Central Valley steelhead has been listed as “threatened” under the ESA since January 2006. Adult anadromous steelhead can be expected to enter freshwater streams between August and November and spawning typically takes place between December and April. Juveniles begin to emerge from late winter to summer and will then spend between one and three years in freshwater before emigrating in the spring (Williams 2006). Habitat modeling conducted by Lindley et al. (2006) suggests that waterways on the floor of the Central Valley are unfavorable spawning and rearing locations for steelhead due to their excessively high summer temperatures. This same study also noted that many of the small tributaries of the San Joaquin are generally too degraded to support viable populations. With the substantial population of *O. mykiss* found upstream, the Calaveras proves to be unique among smaller San Joaquin/Delta tributaries.

Abundance data reveal that populations in the Central Valley are relatively small for naturally occurring steelhead. *O. mykiss* counts at the Red Bluff Diversion Dam from 1967 to 1993 revealed a precipitous decline in returns to the upper Sacramento River. While more recent data are scarce, an updated report



from NOAA Fisheries (Good et al. 2005) estimated an average of 3,628 naturally spawning female steelhead in the Central Valley between 1998 and 2000, based on the adipose-fin-clip ratio.

While the importance of the Calaveras River for steelhead production is currently unknown, it is classified as a Core 1 watershed for recovery, which means that it has the potential to support a viable steelhead population. Annual snorkel surveys have been conducted on the Calaveras River since 2011 to estimate the abundance of *O. mykiss* downstream of New Hogan Dam. Since then, abundance estimates of *O. mykiss* have fluctuated greatly from a low of 650 in 2016 to a high of 23,089 in 2018. The estimated overall abundance of *O. mykiss* (all life stages combined) in the Calaveras River based on snorkel surveys in 2021 was 16,260 fish (95% confidence interval: 8,980–23,542), which represents a slight increase over the 13,551 fish estimated in 2020 and is the second highest estimated abundance since periodic snorkel surveys were implemented (SEWD and FISHBIO 2022).

As previously discussed, rotary screw trapping has been conducted in the Calaveras River at Shelton Road since 2002. Since the initiation of sampling, total annual catch of *O. mykiss* (juveniles and adults combined) has ranged from 60 to 2,818 individuals in 2017 and 2010, respectively (average = 1,051). The total estimated abundance over the same period has ranged from 199 to 12,523 in 2016 and 2020, respectively (average = 4,559).

### **Critical Habitat and Magnuson-Stevens Act Essential Fish Habitat**

As previously noted, the Project Area lies at the Calaveras River divergence point between the Old Calaveras and Mormon Slough. Mormon Slough has been extensively modified for flood flow diversion and irrigation water conveyance since the early 20<sup>th</sup> century. As such, it offers little value as habitat for special-status species, particularly cold-water fishes like salmonids, beyond its temporally limited function as a migratory corridor. The Old Calaveras River channel was historically the mainstem of the river but has been a secondary channel since 1934, when the Linden Irrigation District built the Old Calaveras Headworks Facility and flows were primarily directed into Mormon Slough (Crow 2006). The Old Calaveras becomes more channelized with less cover as it progresses downstream. The substrate in the upper third of this reach consists of sand and silt with limited gravel and cobble and the lower two thirds of the reach consist of mostly sand, silt, and clay. Due to the described habitat limitations, the Old Calaveras offers no utility for salmonids for spawning or rearing.

Two readily accessible government websites were used to determine applicable critical habitat designations and fish species listed as threatened or endangered by the ESA. The first source was a Project-planning tool (Information for Planning and Conservation; IPaC) provided by the U.S. Fish and Wildlife Service (USFWS 2015; accessed March 15, 2022). The location used in the planning tool was a 30-acre area encompassing the designated Project Area. The IPaC data viewer and automated reporting system indicated that a critical habitat designation was not found for fisheries resources managed by USFWS within or near the Project Area.

The second source utilized was the NOAA Fisheries website (NOAA 2015; accessed on March 15, 2022). GIS shapefiles were downloaded from the website and viewed using Google Earth Pro software. All shapefiles of critical habitat designations for ESA listed Chinook salmon stocks, Central Valley steelhead, and sDPS green sturgeon were downloaded. Examination of the shape files revealed that critical habitat

for the sDPS green sturgeon includes waterways nearest the confluence with the San Joaquin River, well downstream of the Project Area. The entirety of the Calaveras River below New Hogan Dam has been designated as critical habitat for Central Valley steelhead. No critical habitat designations were observed for either Central Valley spring-run or Sacramento River winter-run Chinook salmon in the Calaveras River.

With regard to Magnuson-Stevens Fishery Conservation and Management Act (MSA) Essential Fish Habitat, while the Calaveras River watershed is shown as Essential Fish Habitat for Chinook salmon in the NOAA Fisheries mapping tool, the agency’s Biological Opinion issued as part of the issuance of the incidental take permit for the CHCP acknowledges that presence of any run (e.g., spring, winter, fall, or late fall) of Chinook salmon in the Calaveras River is “opportunistic” and that their numbers do not currently facilitate a self-sustaining population. Further, habitat available within the Project Area solely serves as a migratory corridor. Additionally, there is not MSA Essential Fish Habitat designated for Central Valley steelhead.

**4.4.3 Biological Resources (IV) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with Mitigation Incorporated**

**4.4.3.1 Sensitive Species Potentially Occurring in the Project Site**

The potential for intensive use of habitats within the project site by terrestrial special-status wildlife species is generally low. Swainson’s hawk, bank swallow (*Riparia riparia*), burrowing owl, tricolored blackbird (*Agelaius tricolor*), yellow-breasted chat (*Icteria virens*), pallid bat (*Antrozous pallidus*), giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), western pond turtle, western spadefoot (*Spea hammondi*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and VELB are special-status wildlife species identified in the CNDDDB (2022) query prepared for the Terrestrial BA. The USFWS IPaC Trust Report includes a few of these same species and also includes conservancy fairy shrimp (*Branchinecta conservatio*), and monarch butterfly (*Danaus plexippus*). In addition, the Fisheries BA identifies Chinook salmon (*O. tshawytscha*) and Central Valley steelhead (*O. mykiss*).

While the Project vicinity may have provided habitat for several special-status terrestrial wildlife species in the past, agriculture, development, and construction and maintenance of roads and/or irrigation facilities on and adjacent to the site have modified the natural habitats and associated potential to support terrestrial special-status species. Of the terrestrial wildlife species listed and discussed in Terrestrial BA

Table 3 (see Appendix C-2), Swainson's hawk, tricolored blackbird, western pond turtle, and VELB were determined to have potential to occur in the site on more than a transitory or very occasional basis. As discussed further below, other special-status birds may fly over or forage in the area on occasion but are not expected to nest or extensively utilize the habitats within the Project Site.

In addition to the above terrestrial wildlife species, as discussed in the Fisheries BA, Central Valley steelhead and Chinook salmon were also determined to have potential to occur in the site and are also addressed below. These species represent the most sensitive fish species occurring in the Project Study Area, particularly Central Valley steelhead, which occur year-round. Therefore, it is assumed that the potential impacts of the Project on these anadromous fish species are also applicable to all less sensitive resident native and nonnative fish species.

In the analysis below, the impacts of Project construction on special-status species and their habitats is assessed first, followed by analysis of potential operational impacts. Where potential impacts are identified, feasible mitigation is recommended to reduce impacts to less than significant. It should be noted that the overall sensitive species mitigation approach presented in this initial study allows for either a standard resource agency permit process, or participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJCMSPP), or some combination as may be approved by the resource agencies.

#### **4.4.3.2 Construction Impacts**

Project construction would include vegetation removal and grading throughout the site, including immediately adjacent to surface waters. Ground disturbance can cause mobilization of construction related contaminants and/or silt or sediment to enter surface waters which would be a potentially significant impact to aquatic species. With implementation of Mitigation Measure **BIO-1**, this impact would be reduced to **less than significant with mitigation incorporated**.

#### **Amphibians and Reptiles – Western Pond Turtle**

Four special-status amphibian and reptile species were identified as having the potential to occur within the Project Study Area based on the literature review. Upon further analysis and site reconnaissance, three of the species, Giant garter snake, California tiger salamander, and western spadefoot were determined to be absent from the Project Study Area due to the lack of suitable habitat or because the Project Study Area is outside of the current known range of the species (see Appendix C-2, Terrestrial BA Table 3). No further discussion of those species is provided. Therefore, the only amphibian or reptile species with potential to occur within the Project Study Area is western pond turtle.

The western pond turtle is a state species of concern but is not a listed species at the state or federal level. Western pond turtles are associated with permanent or nearly permanent bodies of water with adequate basking sites such as logs, rocks or open mud banks. Pond turtles construct nests in sandy banks along slow-moving streams and ponds in the spring and the young usually hatch in 2 to 3 months. The nearest occurrence of western pond turtle recorded in the CNDDDB (2022) search area is approximately 11 miles north of the Project Site.

Western pond turtle may occur in waters of the Calaveras River, Old Calaveras River, and Mormon Slough in or near the project site, but are unlikely to nest in uplands adjacent to the rivers due to the steep and near-vertical river banks. The ruderal grasslands adjacent to the river in the site are also routinely mowed and/or disked, providing low quality, but potential nesting habitat for this species. Further, there are no sandy banks within the project site, which western pond turtle prefer as a nesting substrate and the banks of the river notably lack large woody debris for basking. Thus, potential impacts to western pond turtle are considered **less than significant and no mitigation is required.**

### **Invertebrates - Valley Elderberry Longhorn Beetle**

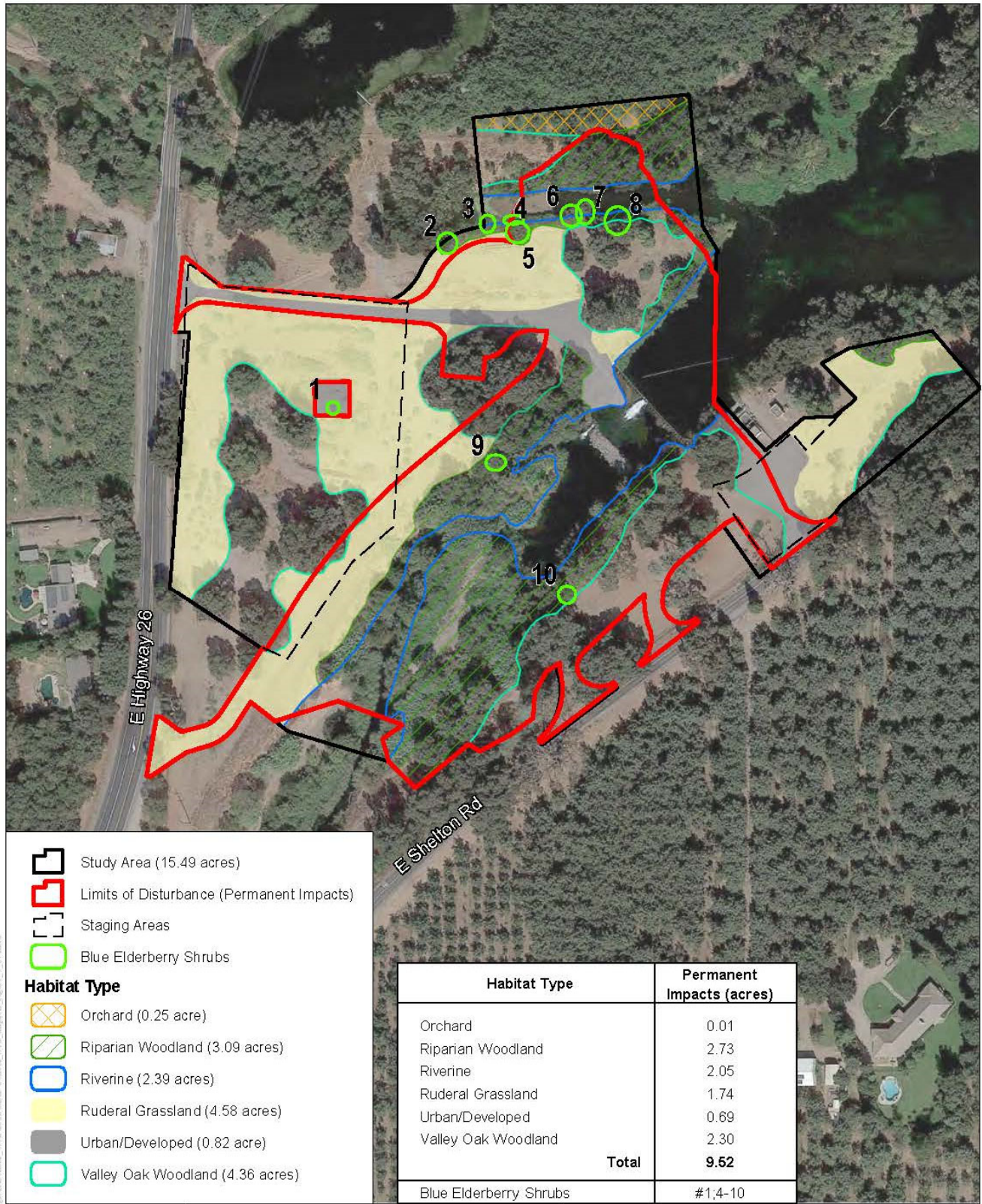
Five special-status invertebrate species were identified as having the potential to occur within the Project Study Area based on the literature review. Upon further analysis and site reconnaissance, four of the species, vernal pool fairy shrimp, conservancy fairy shrimp, vernal pool tadpole shrimp and monarch butterfly were determined to be absent from the Project Study Area due to the lack of suitable habitat or because the Project Study Area is outside of the current known range of the species (see Appendix C-2, Terrestrial BA Table 3). No further discussion of those species is provided. Therefore, the only invertebrate species with potential to occur within the Project Study Area is the VELB.

VELB is listed as a federally threatened species and its host plant is the blue elderberry shrub. Eggs are laid on the leaves or stems of the shrubs and upon hatching, the larvae bore into the stem where they remain for 2± years feeding on the interior portions of the stems. Following several larval instars, the larvae chew an exit hole in the stem, pupate, and emerge after approximately a month as an adult. The adults live only four to five days, mate, lays eggs, and die. The nearest occurrence of VELB in the CNDDDB (2022) search area is approximately 2.5 miles northeast of the Project Site.

The USFWS (2017) *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* direct that, if possible, elderberry shrubs should be avoided by a ground disturbance set back of at least 165 feet from the drip line of each shrub. A number of measures are also recommended to avoid and minimize Project impacts to VELB and/or its habitat including fencing, worker training, and timing of construction, among others. In cases where complete avoidance is not feasible, the Framework recommends compensatory mitigation for the loss of actual or potential VELB habitat.

Mitigation for impacts to actual or potential VELB habitat is usually achieved through the purchase of credits at an USFWS-approved mitigation bank, and transplantation of the impacted shrub to the bank, if feasible. In the case of shrubs in a riparian setting such as at the project site, the Framework recommends compensation at a ratio of 3:1 for impacted shrubs located in riparian habitat via the purchase of credits at a mitigation bank approved by USFWS and transplantation of the impacted shrubs to the bank, if feasible.

As shown in Figure 4.4-12, Project construction would result in the removal of approximately 2.73 acres of riparian woodland vegetation that contain seven blue elderberry shrubs (shrubs 4, 5, 6, 7, 8, 9, and 10), as well as an individual shrub (shrub 1) in an urbanized area. Only shrubs 2 and 3 would avoid direct impact and be preserved.



Source: Moore Biological Consultants

The shrubs range from approximately eight to 15 feet in height and all of the shrubs have multiple stems. While the blue elderberry shrubs may provide habitat for VELB, no boreholes indicative of valley elderberry longhorn beetle were observed on the stems of the shrubs during field survey. With the exception of the northwestern most two blue elderberry shrubs along the south bank of the Old Calaveras River (shrubs 2 and 3), all of the blue elderberry shrubs in the site will be removed. Thus, Project construction would have a potentially significant impact to VELB.

Additionally, grading in close proximity to blue elderberry shrubs 2 and 3 could result in changes in drainage patterns or generation of dust, indirectly impacting VELB by a reduction in habitat suitability. However, it should be noted that grasslands adjacent to shrubs 2 and 3 have been graded in the past and are periodically disturbed by onsite routine maintenance and staging activities.

To address indirect impacts to VELB and its habitat, the Project would implement Mitigation Measures **BIO-2**, and **BIO-3**. In accordance with these measures, construction workers would be trained to recognize VELB habitat and applicable protections under the law. The Project contractor would also work with a resource specialist to identify elderberry shrubs to be avoided (Shrubs 2 and 3) so that the shrubs can be identified as environmentally sensitive areas and protected with temporary orange construction fencing. To address direct impacts to VELB, because VELB is listed as threatened under the federal ESA, prior to construction Mitigation Measure **BIO-4** would also be required. With implementation of Mitigation Measures **BIO-2**, **BIO-3** and **BIO-4**, potential impacts to VELB would be reduced to ***less than significant with mitigation incorporated***.

As discussed in this initial study Project description section and below, as an alternative to traditional resource agency permit driven mitigation, SEWD may seek coverage for VELB under the SJMSCP. Should the Project participate, SJMSCP conservation requirements would substitute for Mitigation Measure **BIO-4**. Should the Project not participate in the SJMSCP, all recommended initial study mitigation measures would be implemented.

### **Birds – Swainson’s Hawk and Tricolored Blackbird**

Five special-status bird species were identified as having the potential to occur within the Project Study Area based on the literature review. Upon further analysis and site reconnaissance, three of the species, Bank swallow, Yellow-breasted chat, and burrowing owl were determined to be absent from the Project Study Area due to the lack of suitable habitat or because the Project Study Area is outside of the current known range of the species (see Appendix C-2, Terrestrial BA Table 3). No further discussion of those species is provided. Therefore, the only special-status bird species with potential to occur within the Project Study Area are Swainson’s hawk and Tricolored blackbird.

#### ***Swainson’s hawk***

The Swainson’s hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act (MBTA) and California Fish and Game Code protect Swainson’s hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson’s hawks are found throughout much of the Central Valley primarily during their breeding season, a relatively small population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and Central America and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August.

No Swainson's hawks were observed in or near the site. There are only five occurrences of this species in the CNDDDB (2022) within five miles of the site; the nearest occurrence is a historical record (1923) mapped nonspecifically around the town of Bellota (Appendix C-2, Terrestrial BA Appendix B). The next nearest record of this species is over three miles from the site.

The site is along the east edge of the nesting range of this species and Swainson's hawks are not widespread in this part of the County. Although there are several suitable nest trees in and surrounding the site, land uses in the area are not compatible for Swainson's hawk. The site is primarily surrounded by orchards, which is not a compatible land use for foraging Swainson's hawk, and reduces the likelihood that Swainson's hawk would nest in the area. Swainson's hawks prefer nesting in close proximity to suitable foraging habitat. Grasslands and croplands in other portions of San Joaquin County west of the site offer much more abundant and higher-quality habitat for foraging Swainson's hawk. Swainson's hawks may fly over the site on occasion, but are unlikely to nest in or adjacent to the site. However unlikely, should a Swainson's hawk nest on or immediately adjacent to the project site, onsite construction activities have the potential to disrupt nesting. This is a potentially significant impact to Swainson's hawk. Implementation of Mitigation Measures **BIO-2**, **BIO-3** and **BIO-5** would reduce this impact **to less than significant with mitigation incorporated**.

#### ***Tricolored blackbird***

The tricolored blackbird (TRBL) is a State of California threatened species and is also protected by the federal MBTA and California Fish and Game Code. There are a few scattered records of this species in the CNDDDB (2022) search area in the greater Project vicinity, with the nearest record approximately one mile southeast of the project site. TRBL are colonial nesters requiring very dense stands of emergent wetland vegetation and/or dense thickets of wild rose or blackberries for nesting. TRBL forages in annual grasslands and cropland. TRBL was not observed in the site during the field surveys. However, patches of willows, emergent wetland vegetation, wild rose, and blackberry brambles along the banks of the Calaveras River, Old Calaveras River, and Mormon Slough provide suitable nesting habitat for this species. Therefore, Project construction within and adjacent these areas is considered a potentially significant impact to TRBL. With implementation of Mitigation Measures **BIO-2**, **BIO-3**, and **BIO-6** this impact would be reduced to **less than significant with mitigation incorporated**.

#### **Fish – Chinook Salmon and Central Valley Steelhead**

Mormon Slough and the mainstem Calaveras River support two special-status fish species: (1) Central Valley (CV) spring run Chinook salmon (Federal and State listed Threatened), and (2) Central Valley steelhead (Federal listed Threatened). These species represent the most sensitive fish species occurring in the Project Study Area, particularly CV steelhead, which occur year-round. Therefore, it is assumed that

the potential impacts of the Project on these anadromous fish species are also applicable to all less sensitive resident native and nonnative fish species that may occur in the project site.

### ***Chinook salmon***

Adult Fall run Chinook salmon may be affected by this Project, though impacts to adults would be limited to periods when work may be required outside the irrigation season and therefore outside the described in-water work window. Sprint run and winter run Chinook salmon are not anticipated to utilize the Calaveras in any given year. As previously noted, flashboard dams are installed at twelve locations throughout Mormon Slough, beginning April 15, in most years, and being removed from the river on or about October 15. This would effectively exclude all migrating adult Chinook salmon from the Project Area during the anticipated work window.

Juvenile Chinook salmon generally emerge and migrate prior to the anticipated work window between January and June and would therefore be largely unaffected by the Project. Further, a rotary screw trap (RST) has been used to monitor juvenile salmonids the Calaveras River since 2002. Since the initiation of monitoring, juvenile Chinook salmon have been observed in only 60 percent of the monitoring seasons (with only one juvenile Chinook observed during the 2008 monitoring season). Since 2002, only 22,135 individuals (average = 1,165) have been captured at the RST with the majority of outmigrating juvenile Chinook (95.7%) captured between November and May, outside of the in-water work window of mid-June to late October. For context, RST sampling in the nearby Stanislaus River can yield thousands of juvenile Chinook salmon in a single day. This underscores the opportunistic utilization of the Calaveras River by Chinook salmon as the monitoring seasons with the largest number of juveniles encountered in the RST have typically occurred immediately after wet water year types (e.g., WY 2006 and 2017). Very wet water years fill the reservoir and result in a need to discharge significant volumes during the migratory period for adult Fall run Chinook salmon to reach top of conservation storage. These flood-control discharges result in connectivity with the San Joaquin River and attract straying Chinook salmon into the Calaveras River.

As such, Fall run and Spring Run Chinook salmon would not be directly affected by in-water construction-related activities, which would occur during the mid-June to late October in-water work window. Related impacts are **less than significant**.

### ***Central Valley Steelhead***

Adult *O. mykiss* may be affected by this Project, though impacts to adults would be limited to periods when work is occurring outside the irrigation season. However, in-water work outside of the irrigation season would be limited to the installation of sheet piles to serve as a coffer dam and allow for work areas to be dewatered for the protection of aquatic species. As discussed above, as part of SEWD's agricultural water delivery operations, flashboard dams are installed at twelve locations throughout Mormon Slough, beginning April 15, in most years, and are removed from the river by November 1. This would effectively exclude all migrating adult *O. mykiss* from the Project Area during the mid-June to late October work window. As there is only potential to impact adults during limited periods outside of the in-water work window, there is little to no potential for the Project to impact adult *O. mykiss*.



Regardless of the life history, all *O. mykiss* potentially occurring in the Project Study Area would undergo spawning, egg incubation, emergence, and development into free-swimming juvenile fish during the winter and spring months. As such, the mid-June to late October in-water work window would avoid the sensitive *O. mykiss* spawning period and the immobile/limited mobility egg, alevin, and fry life stages, which generally occurs well upstream of the Project Area.

To facilitate required in-water demolition and construction activities and protect aquatic species, the approximately 600-foot-long Mormon Slough in-water construction footprint would be dewatered during the mid-June to late October in-water work window. Dewatering would occur by constructing a temporary sheet pile cofferdam immediately above the existing weir and routing water from the cofferdam impoundment to a point below the dewatering area as shown in Figure 2-14B. As water is gradually drawn down within the dewatering area, fish occurring downstream of the diversion dam, potentially including juvenile steelhead, would likely move downstream to the reach below the diversion pipe outlet where stream flow would be continuous. During this process, there is a potential for some fish to become stranded in isolated pools downstream of the coffer dam during dewatering. Thus, dewatering is a potentially significant impact to California Central Valley (CCV) steelhead and other resident fish species in the area. Implementation of Mitigation Measures **BIO-7** and **BIO-8** would reduce this impact to ***less than significant with mitigation incorporated***.

#### ***Instream Habitat***

As discussed above, the entirety of the Calaveras River below New Hogan Dam (including Mormon Slough and the Old Calaveras) is designated critical habitat for CV steelhead. However, no part of the Calaveras River is designated critical habitat for either CV spring-run or Sacramento River winter-run Chinook salmon. With regard to MSA Essential Fish Habitat, the Calaveras River watershed is identified as Essential Fish Habitat for Chinook salmon, however there is no MSA Essential Fish Habitat designated for Central Valley steelhead.

Dewatering of the in-water work area would result in the temporary loss of CV steelhead critical habitat and Chinook salmon Essential Fish Habitat over an approximately 600-foot reach of Mormon Slough extending from the temporary cofferdam to the diversion pipe outlet. Aquatic habitat within this reach would be temporarily lost during in-water demolition and construction activities. As shown in Figure 4.4-4 above, under existing conditions approximately 120 lineal feet of instream habitat within this reach is dominated by concrete riverbed and banks supporting the existing Bellota Weir and Diversion Facility, followed downstream by an additional approximately 20-foot-wide area of riprap used to concentrate flow to facilitate use of existing outdated fish ladders. As such, instream habitat downstream of Bellota Weir is mostly poor-quality under existing conditions with only limited fish passage opportunity across a wide range of flow regimes.

Following Project completion, aquatic habitat within this reach would be substantially improved compared to existing conditions. Proposed improvements include modern fish passage facilities which would replace the temporary Denil fish ladders currently utilized. The roughened channel fish passage design would increase instream habitat complexity allowing multiple holding locations for fish as they proceed upstream, much more comparable to that under historic conditions prior to the construction of the

Bellota Weir and Diversion Facility. The newly constructed permanent fish ladder would also be capable of accommodating fish passage across a broader range of flow regimes. Project improvement also reduce entrainment potential of fish transiting the Project Area by improving screening at multiple locations. In consideration of these factors, Project improvements would contribute toward the recovery of special-status salmonids in the watershed and thus the Project constitutes a habitat “lift” compared to existing conditions. As such, the Project would have a beneficial **less than significant** impact to instream habitat and anadromous fish migration.

#### **4.4.3.3 Operational Impacts**

##### **Terrestrial Wildlife**

Project operation is not expected to increase impacts to terrestrial wildlife species compared to existing operations. River flow elevation would not be substantially altered, and thus terrestrial habitats adjacent aquatic habitats are expected to remain comparable to existing conditions. General maintenance would continue to include routine mowing and/or disking of ruderal grasslands for fire control and to maintain operational staging areas. One noticeable change would be elimination of the need for manual installation and removal of flashboards during and after irrigation season. Remote weir operation allows for reduced human intrusion/disruption to terrestrial wildlife use of the site, which would be beneficial. Operational impacts to terrestrial species are **less than significant**.

##### **Fisheries Resources**

###### ***Fish Passage***

IS/MND Section 2.15 *Project Operation* provides a detailed description of Proposed Project operation during the non-irrigation season, the irrigation season, and high-flow conditions during the irrigation season.

The Project’s fish passage design accounts for seasonal adjustments to water surface elevation to ensure fish passage during all expected operational conditions. During non-irrigation season operations, fish passage would be maintained through use of the roughened channel and the fish ladder would be closed. During the irrigation season, fish passage flows would be conveyed to either the roughened channel or fish ladder which would ensure continuous fish passage conditions during all flow conditions resulting in beneficial impacts to anadromous fish. Thus, Project operation would result in **less than significant impacts** to fish migration.

###### ***Facility Maintenance***

Anticipated maintenance for the following Project facilities is fully described above in Project Description Section 2.16 *Project Maintenance Expectations*.

- Pipeline Intake Screen Maintenance
- Consolidated Pipeline Intake Maintenance (Instream Structures)
- Sluiceway

- Roughened Channel Fishway
- Annual Maintenance
- Infrequent Maintenance
- Weir
- Fish Ladder

As discussed in the Project Description, with the exception of the roughened channel and fishway, Project maintenance needs would generally be similar to those currently conducted for the existing facilities, such as cleaning or repairing fish screens, and sluicing of the area in front of and behind the screens. Most maintenance actions related to the new intake would occur within the new infrastructure and therefore isolated from the river channel. Following a large flood event, however, minor replacement of armoring adjacent to the new intake structure or removal of debris from the sluiceway exit may be necessary.

With regard to the weir crest and fishway, structural integrity of the roughened channel should not be compromised during or following any given flow event up to the 100-year flow. Despite this, annual maintenance activities in the roughened channel fishway may be required to remove large debris if such debris interferes with low flow conditions. Large debris removal would likely be accomplished using an excavator with an extension arm operating from the access road.

Although Project design emphasizes stability, higher flow events may cause unanticipated scour and erosion altering the roughened channel crest and/or bed configuration requiring maintenance or repair activities. Repair activities may include filling eroded areas with a designed rock matrix like the original design or resetting specific large rocks at the crest or mid-fish channel to reestablish the indented hydraulic conditions. Larger scale repairs may require review and individual permits approved through multiple government agencies on a case-by-case basis. Depending on timing and methods, required Project maintenance could impact fishery resources which is a potentially significant impact. Implementation of Mitigation Measures **BIO-9** would reduce this impact to ***less than significant with mitigation incorporated***.

Current maintenance activities for the existing Bellota Wier and Diversion Facilities are covered by a Routine Maintenance Agreement (RMA) with CDFW (RMA #1600-2018-0106-R2) and considered by the Incidental Take Permit issued by NOAA Fisheries as a result of the CHCP. Recommended Mitigation Measure **BIO-9** requires SEWD consult with CDFW on Project required maintenance activities and to execute either an amended or new RMA addressing Project maintenance, should CDFW require. Stipulations and conditions of the new or amended RMA would ensure required maintenance is conducted with appropriate timing and care to avoid fishery impacts. From a CEQA perspective, it is assumed that in-water activities required to maintain intended operations in the same footprint of the original facility would not constitute a new impact, but rather maintenance of an existing facility. Thus, depending on the required maintenance details and timing, these activities may qualify for CEQA and Section 404 maintenance exemptions.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with Mitigation Incorporated**

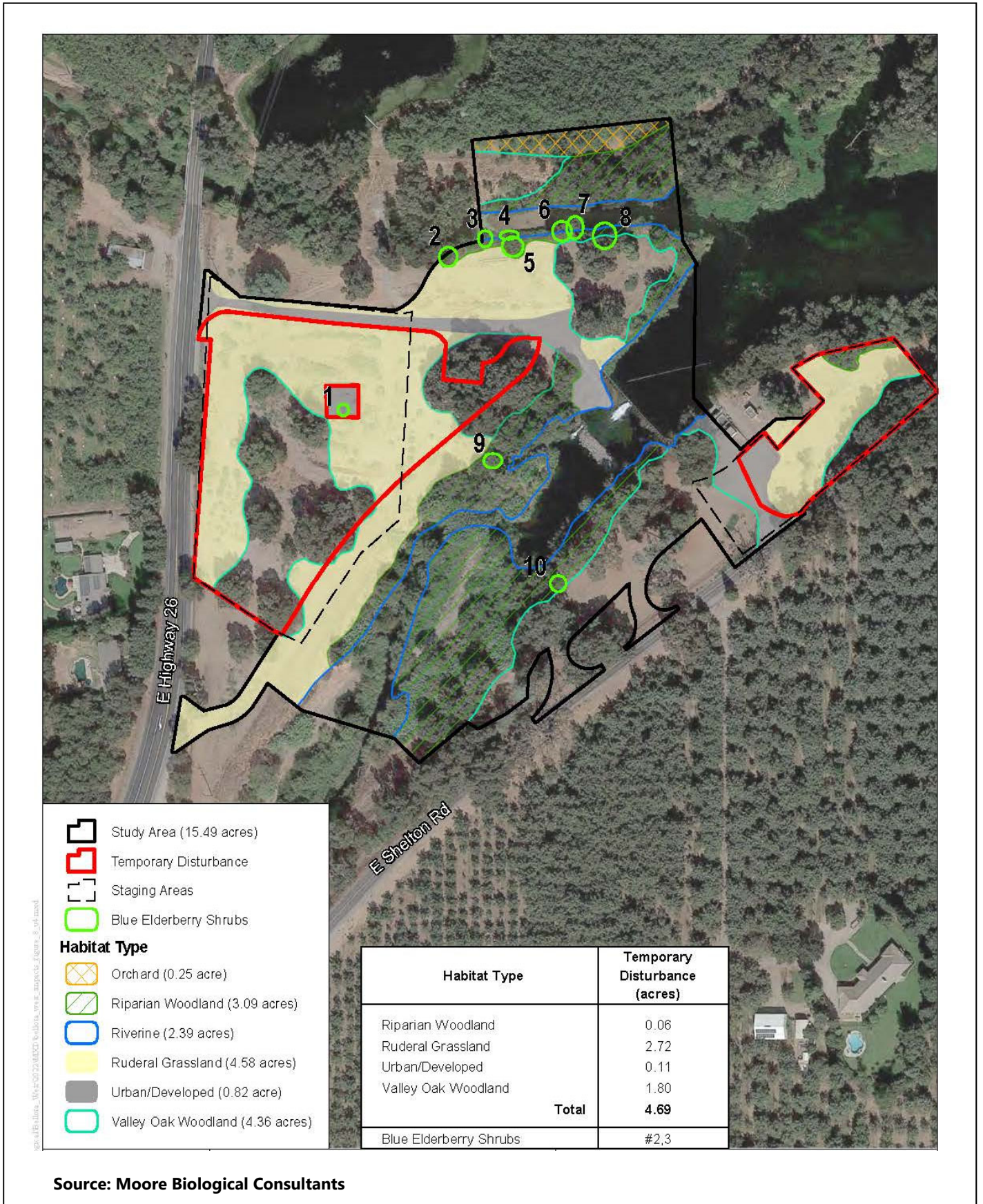
**4.4.3.4 Construction**

Riparian habitats, such as the riparian woodlands in the site, provide suitable habitat for numerous plant and wildlife species; some riparian corridors also support sensitive vegetation communities. Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Valley Oak Riparian Forest (Holland 1986) are sensitive vegetation communities mapped in the CNDDDB along riparian corridors. Although not mapped in the CNDDDB, approximately 3.09 acres of the site is comprised of riparian woodlands that may be best be classified as Great Valley Valley Oak Riparian Forest vegetation.

The Project would result in permanent impacts to a maximum of 2.73 acres of riparian woodland vegetation resulting from the conversion of riparian woodlands to Project facilities (i.e., "Project footprint") as well as vegetation removal and grading in surrounding areas that is required to facilitate construction (see Figure 4.4-12). Some of the vegetation within this 2.73 acres may remain following construction and some vegetation would likely reestablish in parts of this 2.73 acres following construction.

As shown in Figure 4.4-13, the Project would also result in temporary construction impacts from staging in up to 0.06 acres of riparian woodland vegetation. Tree removal is not proposed in the staging areas, as the trees are primarily mature valley oaks with canopies 20 feet or more above ground level. These areas are subject to routine disturbance associated with maintenance of the existing diversion facilities, with vehicles and equipment readily driving around under the tree canopies. Following construction, the riparian woodland vegetation and wildlife habitats in the staging areas would be comparable to those prior to construction.

As a fish passage improvement/restoration Project, the above construction-generated permanent and temporary impacts to riparian woodlands are considered in the context of the overall Project and benefits provided. As discussed above, the Project is proposed consistent with the CHCP which requires that the Bellota Weir, Bellota Intake, and Calaveras Headworks be upgraded or replaced consistent with identified conservation targets. The CHCP also provides operational criteria to support the biological goals of maintaining a viable population of threatened California Central Valley steelhead within the CHCP boundaries while providing adequate habitat conditions upstream of Bellota for fall-, late fall-, spring-, or winter-run Chinook salmon that may opportunistically migrate into the conservation area.



These Project benefits outweigh the permanent and temporary Project construction impacts to riparian woodland habitat. Thus, the Project's permanent impacts to riparian woodland habitat or other sensitive natural communities is **less than significant**.

**4.4.3.5 Operation**

As discussed above, 2.73 acres of riparian woodland exists in the project site (Figure 4.4-12). While normal Project operation would not result in impacts to onsite riparian woodland habitat, Project maintenance may include trimming of riparian woodland vegetation to ensure access requirements and appropriate operational clearance. Trimming (or removal) of riparian woodland habitat for maintenance purposes (beyond that required for Project construction) would be a significant impact. Implementation of Mitigation Measure **BIO-9** would reduce this impact to **less than significant with mitigation incorporated**. Mitigation Measure **BIO-9** requires SEWD to consult with CDFW on Project required maintenance activities and execute either an amended or new RMA for Project maintenance activities if required by CDFW.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant Impact with Mitigation Incorporated.**

**4.4.3.6 Construction**

The Project would result in impacts to 2.05± acres of Waters of the U.S. (Figure 4.4-12), primarily consisting of permanent impacts through the placement of fill in approximately 1.25 acres of Waters of the U.S. An additional 0.8± acres adjacent to the Project footprint would be subject to grading and temporary construction disturbance related to construction equipment and personnel accessing the work area. While this disturbance area is located outside the footprint or the proposed armored channel and other hardscape, much of it would be subject to fill related to grading. Due to the magnitude of temporary construction disturbance area and placement of fill, all work and fill within Waters of the U.S. is considered permanently impacted which is a significant impact. Implementation of Mitigation Measure **BIO-10** would reduce this impact to **less than significant with mitigation incorporated**.

The Project is expected to result in net increases in aquatic resources functions and values in Mormon Slough and the Old Calaveras River and appears to meet the criteria for authorization under USACE Nationwide Permit No. 27. Mitigation Measure **BIO-10** would ensure the overall Project benefits to aquatic functions are values are considered when determining compensatory mitigation requirements. Thus, compensatory mitigation for impacts to 2.05± acres of Waters of the U.S. in Mormon Slough and

the Old Calaveras River may be satisfied by the Project as proposed and additional mitigation may not be required. The final determination will be made via the permit process as discussed in Mitigation Measure **BIO-10**.

**4.4.3.7 Operation**

Project operation would not require fill to any wetlands or Waters of the U.S. and there would be no impact.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact**

**Construction**

**Terrestrial Wildlife.** Riparian corridors, such as those in the project site, are often utilized for movement by terrestrial wildlife species such as mule (black-tail) deer, coyote, red fox (*Vulpes vulpes*), and bobcat (*Felis rufus*), as well as a variety of amphibians, and reptiles. The construction phase would result in temporary disturbance to localized terrestrial wildlife movement along Mormon Slough, the Calaveras River and Old Calaveras River in the vicinity of construction. While this activity would cause temporary disturbance near the river banks, surrounding undeveloped lands provide adequate parallel forage, cover and movement opportunities. Therefore, temporary impacts related to terrestrial wildlife migration would be **less than significant**.

**Fisheries.** The Project Area does not provide adequate rearing habitat for juvenile *O. mykiss* and migration during the spring does not overlap with the proposed summer in-water work window. Furthermore, during in-water construction, a sheet pile coffer dam would be used to exclude fish from the work area and a bypass would be provided to allow water and fish to flow downstream. As such, migrations of anadromous fish are not anticipated to be affected by construction-related activities which would occur during the mid-June to late October in-water work window. Thus, temporary impacts to anadromous fish migration would be **less than significant**.

**Operation**

**Terrestrial Wildlife.** Following Project construction, terrestrial habitats in the site would contain fewer large trees and less shrubby vegetation than under existing conditions. However, these terrestrial habitat modifications would not impede wildlife movement, and despite being more open, the project site is expected to remain comparable to existing conditions and continue to be used for terrestrial wildlife

movement. Thus, impacts to related movement of any native resident or migratory terrestrial wildlife species is **less than significant**.

**Fisheries.** Overall, the Project is considered restorative for fish migration compared to existing habitat conditions. For example, the Project enhances anadromous fish passage by constructing a new roughened channel “fish way” and permanent ladder that combined would allow fish passage under a wider range of flows than the current temporary ladders and degraded, ripped channel. Furthermore, the roughened channel fishway design increases instream habitat complexity allowing multiple holding locations for migrating fish as they proceed upstream. The Project also reduces entrainment potential of fish transiting the Project Area. In consideration of these factors, Project improvements would enhance fish migration and contribute toward the recovery of special-status salmonids in the watershed. As such the Project would have a beneficial impact to anadromous fish migration and related impacts are **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Less than Significant Impact.**

Oak trees in San Joaquin County are protected under Title 9 (Development Title), Division 15, Chapter 9-1505 of the Ordinance Code of San Joaquin County. However, as outlined in Government Code sections 53091(a) and 65402(c), as a special district involved in water transmission, SEWD is not subject to County zoning, building ordinances, or policy. Thus, the Project would have no conflict because it is not subject to the County’s tree ordinance and there would be **No Impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Less than Significant Impact**

The Project is within the boundaries of the CHCP and the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Project consistency with these plans is addressed below.

**Calaveras Habitat Conservation Plan**

Continued operation of the Bellota Weir, Bellota Intake, and Old Calaveras River Headworks diversion is guided by the CHCP (NOAA 2020). The CHCP provides operational criteria to support the biological goals



of maintaining a viable population of threatened California Central Valley steelhead within the CHCP boundaries and maintaining adequate habitat conditions upstream of Bellota for fall-, late fall-, spring-, or winter-run Chinook salmon that may opportunistically migrate into the conservation area. While the CHCP includes actions to support the various runs of Chinook salmon when resources are available (e.g., designed fisheries flow when surplus water in reservoir prior to December 15 to get to flood control), conditions are not expected to maintain self-sustaining runs.

The CHCP allows SEWD to comply with the ESA, protecting and managing fishery resources and habitat while maintaining reliable water delivery to its constituents. Following NOAA Fisheries approval on August 11, 2020, SEWD is authorized for a 50-year Incidental Take Permit (ITP #23264), for ESA listed species under NOAA Fisheries authority.

The CHCP requires that the Bellota Weir, Bellota Intake, and Calaveras Headworks be upgraded or replaced. Specifically, the CHCP includes the following conservation targets:

**FP1 and AE1:** *Avoid migration delays and blockage, and entrainment within the Old Calaveras River Channel by constructing a non-entraining barrier at the Old Calaveras River Headworks Facility and at the downstream end of the channel near the confluence with the [Stockton Diverting Canal] within the first ten years of the ITP.*

**FP2/AE3:** *Construct and implement a combined crest gate/fishway/fish screen at the Bellota [Intake] Diversion Facility to improve [salmonid] passage into/out of the 18-mile spawning and rearing reach between Bellota and New Hogan Dam and to prevent fish entrainment; target completion within first five years, but no later than 10 years of [issuance of] the ITP.*

The Project is proposed consistent with and implements the above targets.

### **San Joaquin County Multi-Species Habitat Conservation and Open Space Plan**

The Project is in San Joaquin County and thus has an opportunity to participate in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) (SJCOG 2000), which is focused on terrestrial biological resources. The key purpose of the SJMSCP is to:

- provide a strategy for balancing the need to conserve Open Space and the need to convert Open Space to non-Open Space uses while protecting the region's agricultural economy;
- preserve landowner property rights;
- provide for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the federal ESA or the California ESA;
- provide and maintain multiple-use Open Space which contribute to the quality of life of the residents of San Joaquin County; and
- accommodate a growing population while minimizing costs to Project proponents and society at large.

The SJMSCP, in accordance with federal ESA Section 10(a)(1)(B) and California ESA Section 2081(b) Incidental Take Permits, provides compensation for the Conservation of Open Space to non-Open Space uses that affect the plant, fish, and wildlife species covered by the SJMSCP. Among other activities, the SJMSCP compensates for conversions of open space for urban development. The SJMSCP involves payment of per-acre fees that are utilized by the SJCOG to preserve and manage conservation lands. The SJMSCP also authorizes take of 97 covered species and requires compliance with Incidental Take Minimization Measures that are issued by on a Project-by-Project basis.

Participation in the SJMSCP is voluntary. As an alternative to traditional resource agency permit driven mitigation, SEWD may seek coverage for certain species under the SJMSCP. Should the Project participate, it is expected that biological resource mitigation could be implemented for the following species covered by the SJMSCP: Swainson's hawk, TRBL, western pond turtle, and VELB. Under this approach, biological resource mitigation measures contained in this initial study would only be implemented for the balance of species impacts identified but not covered by the SJMSCP. Should the Project not participate in the SJMSCP, all recommended mitigation measures contained in this initial study would be implemented.

As discussed above, the Project would not conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP. There would be **no impact**.

#### **4.4.4 Mitigation Measures**

##### **BIO-1: Protect Water Quality and Minimize Sedimentation Runoff to Waters**

The Project will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan (if required), and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment into Waters. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The Project would require a Section 404 Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the CVRWQCB and/or a Lake or Streambed Alteration Agreement from the CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These permit conditions and BMPs shall also be implemented as part of the Project.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

##### **BIO-2 Install Fencing and/or Flagging to Protect Sensitive Biological Resources**

Prior to construction, the Project contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area where adjacent to Environmentally Sensitive Areas (e.g., adjacent riparian areas and any special-

status species habitat and/or active bird nests that may be identified during per-construction surveys). The SEWD will ensure that the final construction plans show the locations where fencing will be installed. The plans also shall define the fencing installation procedure. The SEWD or contractor (at the discretion of the SEWD) will ensure that fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The Project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Areas. All temporary fencing will be removed upon completion of construction.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-3      Conduct Environmental Awareness Training for Construction Personnel**

Before any work occurs within the Project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the Project will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of any permit, Biological Opinion or other authorizing document (e.g., letter of concurrence) that may be prepared for the Project. The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during Project construction.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-4      Conduct Section 7 Consultation with USFWS for Elderberry Long Horn Beetle (VELB) and Implement Required Mitigation**

The following shall be implemented through the standard Army Corps Section 404 permitting process to minimize potential impacts to VELB:

- If elderberry shrubs would be removed or if construction ground disturbance would occur within 165 feet of an elderberry shrub, an evaluation using the 2017 USFWS

guidance entitled USFWS 2017 Framework for Assessing Impacts to the VELB (USFWS 2017) (Framework) shall be conducted to determine the appropriate mitigation needs to minimize impacts to VELB and its host shrub.

- Section 7 consultation would take place with USFWS to establish mitigation, avoidance, and/or minimization measures as part of the Section 404 permitting process.
- A preconstruction survey shall be conducted by a qualified biologist in all riverine/riparian habitat within 165 feet of Project disturbance areas before any construction activity. The surveys shall be conducted according to the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle.

If elderberry shrubs are located 165 feet or more from Project activities, direct or indirect impacts are not expected. Shrubs located in riparian areas and within 165 feet of ground-disturbing activities shall be protected from indirect effects during construction by establishing and maintaining a high-visibility temporary construction fence.

If elderberry shrubs can be retained within the Project footprint, Project activities may occur in close proximity to the elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts. If feasible, an avoidance area shall be established at least 20 feet from the drip line of an elderberry shrub for any activities that may damage the elderberry shrub and the Project proponent shall implement avoidance and minimization measures specified in the USFWS Framework.

As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the valley elderberry longhorn beetle (March - July).

For elderberry shrubs that cannot be avoided according to the USFWS 2017 Framework, SEWD shall compensate for the loss of valley elderberry longhorn beetle habitat consistent with the Framework by purchasing appropriate credits at an agency approved mitigation bank, such as the French Camp Conservation Bank.

If trimming elderberry shrubs is proposed, trimming shall be conducted between November and February and shall not result in the removal of elderberry branches that are  $\geq$  one inch in diameter. If trimming results in removing branches that are  $\geq$  one inch in diameter, the Project proponent shall mitigate for the loss of the valley elderberry beetle habitat via the standard permit process consistent with the USFWS 2017 Framework.

The Project proponent shall comply with the ESA and consult with USFWS and will compensate for the unavoidable loss of elderberry shrubs according to USFWS 2017 Framework. The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory

mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank (as discussed above), providing onsite mitigation, or establishing and protecting habitat for valley elderberry longhorn beetle.

Because VELB is a SJCMSMP covered species, substitute mitigation for this species could also be accomplished via the SJCMSMP.

*Timing/Implementation: Prior to construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-5 Survey for Swainson's Hawk and Other Protected Raptor nests and Protect Nesting Activity**

For activities with potential to affect Swainson's hawk and other raptor nests, or remove Swainson's hawk foraging habitat, SEWD shall consult with CDFW with respect to the following measures proposed to mitigate for habitat removal and potential nest disturbance. As part of the consultation, SEWD may seek take authorization under Section 2081 of the Fish and Game Code. The following measures will be implemented and are intended to avoid, minimize, and fully mitigate impacts to Swainson's hawk, as well as other raptors:

- For construction activities that would occur within 0.25 mile of a known or likely Swainson's hawk nest site, SEWD shall attempt to initiate construction activities before the nest initiation phase (i.e., before March 1). Depending on the timing, regularity, and intensity of construction activity, construction in the area before nest initiation may discourage a Swainson's hawk pair from using that site and eliminate the need to implement further nest-protection measures, such as buffers and limited construction operating periods around active nests. Other measures that could be used to deter establishment of nests (e.g., reflective striping or decoys) may be used before the breeding season in areas planned for active construction. However, deployment of nest deterrents does not guarantee success. If breeding raptors establish an active nest site, as evidenced by nest building, egg laying, incubation, or other nesting behavior, near the construction area, they shall not be harassed or deterred from continuing with their normal breeding activities.
- For Project activities, including tree removal, that begin between March 1 and September 15, qualified biologists shall conduct preconstruction surveys for Swainson's hawk and other nesting raptors and to identify active nests on and within 0.5 mile of the project site. The surveys shall be conducted before the beginning of any construction activities between March 1 and September 15, following the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000).
- Impacts to nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during

preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson's hawk and 500 feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and SEWD, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.

- Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.

Because Swainson's hawk is a SJCMSP covered species, mitigation for this species could also be accomplished via the SJCMSP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

#### **BIO-6 Survey for Tricolored Blackbird and Protect Nesting Activity**

The following measures shall be implemented to avoid or minimize loss of active tricolored blackbird nests:

- To minimize the potential for loss of tricolored blackbird nesting colonies and other nesting birds in the project site, vegetation removal activities shall commence during the nonbreeding season (September 1-January 31) to the extent feasible. If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required.

Before removal of any vegetation within potential nesting habitat between February 1 and August 31, a qualified biologist shall conduct preconstruction surveys for nesting tricolored blackbirds (colonies). The surveys shall include all onsite suitable nesting habitat and all suitable nesting habitat located within 100 feet of the construction disturbance boundary and shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the Project design to avoid removal of occupied habitat while still achieving Project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with Project objectives, construction shall be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest colony is no longer active. These recommended buffer areas may be reduced or expanded through consultation with CDFW. Monitoring of all occupied

nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.

Because Tricolored blackbird is a SJCMSPP covered species, mitigation for this species could also be accomplished via the SJCMSPP.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-7 Conduct Fish Rescue and Relocation**

Prior to initiation of construction, a fish exclusion, rescue, and relocation plan shall be prepared and approved by NMFS and CDFW and implemented during construction. The plan shall identify the methods, equipment, fish protection measures, and release location(s) for all fish collected during dewatering of the site. The fish rescue and relocation effort shall be conducted by qualified fisheries biologists during the dewatering process to minimize the potential injury or death of juvenile steelhead, or other fish and aquatic species potentially stranded in isolated pools during dewatering of the project site.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-8 Conduct Section 7 and Magnuson-Stevens Act Consultation with NMFS for CCV DPS Steelhead and Essential Fish Habitat for Pacific Salmon and Implement Required Mitigation**

Prior to initiation of construction, the Project shall undergo ESA and MSA consultation with NMFS through the Corps Section 404 permitting process and shall comply with all terms and conditions of the consultation. Conservation measures to reduce the likelihood of take of CCV DPS steelhead, designated critical habitat for CCV DPS steelhead, and Essential Fish Habitat for Chinook salmon may include, but are not limited to:

- If feasible, conduct all in-channel work during the mid-June to late October in-water work window.
- Conduct worker environmental awareness training.
- Conduct fish exclusion, rescue, and relocation efforts during dewatering activities.
- All dewatering pumps and the intake to the diversion pipe shall be fitted with fish screens meeting NMFS fish screen criteria.

*Timing/Implementation: Prior to and during construction*

*Monitoring/Enforcement: SEWD/Consultant*

**BIO-9: Obtain a CDFW Routine Maintenance Agreement and Implement Required Conditions**

Prior to operational maintenance activities with potential to impact fish and wildlife, SEWD shall consult with CDFW and if required obtain an RMA for the Project. The RMA shall address all anticipated maintenance activities and shall identify appropriate implementation timing and related best management practices to minimize impacts to fish and wildlife resources. The RMA shall be developed consistent with conditions contained in the Project's USFWS and NMFS Biological Opinions and shall identify criteria for when a maintenance activity triggers consultation with the Federal resource agencies.

*Timing/Implementation: Prior to operational maintenance*

*Monitoring/Enforcement: SEWD*

**BIO-10      **Compensate for the Permanent Loss of Waters of the United States/Waters of the State and Restore Temporary Disturbed Areas****

Impacts to Waters of the U.S. are expected to be offset by the Project's environmental benefits, therefore the Project would qualify for an USACE NWP27 and compensatory mitigation for impacts to wetlands and waters would not be required.

Authorization to fill Waters of the U.S. under the Section 404 and 401 of the federal CWA (Section 404 Permit and Section 401 Water Quality Certification) shall be obtained from USACE and CVRWQCB prior to discharging any dredged or fill materials into any Waters of the U.S. Since the Waters of the U.S. are likely also Waters of the State, the 401 Water Quality Certification will authorize fill to Waters of the State. Specific impact avoidance, minimization, and/or compensation measures shall be developed and implemented as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit and an application for a 401 Water Quality Certification for the Project shall be prepared and submitted to USACE and CVRWQCB. Mitigation for impacts to Waters of the U.S., if needed, shall be established through the Section 404 permit process..

If the Project does not qualify for a NWP27, compensation for permanent impacts to a maximum of 2.05± acres of Waters could be accomplished by:

- Purchase of mitigation credits to achieve no net loss at an USACE-approved mitigation bank; and/or
- Permittee-responsible mitigation (e.g., preservation and creation) to achieve no net loss at an on or offsite mitigation property.

*Timing/Implementation:      Prior to and following construction*

*Monitoring/Enforcement:      SEWD/Consultant*



## **4.5 Cultural Resources**

A Cultural Resources Inventory Report was prepared by ECORP Consulting, Inc. (2022; Appendix D) for the Proposed Project to determine if cultural resources were present in or adjacent to the Project Area and assess the sensitivity of the Project Area for undiscovered or buried cultural resources. This section of the initial study is based on the findings of the Inventory and Evaluation Report which includes discussion of the cultural context of the Project Area including regional and local prehistory, ethnography, and regional and Project Area histories. The confidential report can be made available to qualified individuals on a need-to-know basis by contacting SEWD.

### **4.5.1 Environmental Setting**

The Project Area is in the San Joaquin Valley in a rural, agricultural area on the banks of the Mormon Slough, in the Calaveras River watershed. It is located on the point where Mormon Slough diverges from the Calaveras River. The nearest urban development is the community of Linden located 4.3 miles west of the Project Area. Project Area elevations range from 115 to 135 feet above mean sea level.

Contact with non-natives occurred rather early in the San Joaquin Valley. As early as 1772, Captain Fages, visited Yokuts on Buena Vista Lake while seeking army deserters. In 1776, Father Garcés visited Yokuts on the Kern River and distributed glass beads and tobacco to the people after being hospitably received by them (Moratto 1999). It is known that the native people in the Study Area had contact with non-indigenous people by at least 1805 when members of the Leuchas tribelet began appearing in mission records from Missions Santa Clara and San Jose. It is also known that Central Valley tribes made direct contact with the Spanish during Gabriel Moraga's expedition through the Valley in 1806. Cook reports that people in some of the villages fled from them (Moraga's men) because, they reported, they expected the soldiers to kill them (Cook 1955). This implies they had previous encounters or knowledge of the Spanish (Tanksley 2003).

The area around Stockton, about 12 miles southwest of the Project Area, was part of the Campo de Franceses Land Grant, the second largest of the many land grants made by the Mexican government. It was granted to Guillermo Gulnac in 1844 (Aviña 1976). The land was used for cattle grazing, and later for agriculture, first with primarily wheat crops and later fruit orchards dominated into the twentieth century. The land grant was later split up and sold, and the town of Tuleberg was founded on the southern side of the Stockton Channel. The town was renamed in 1849 for Commodore Robert F. Stockton of the U.S. Navy, becoming the first town in California with a name not of Spanish or Native American origins (McElhiney 1992).

During the Gold Rush, numerous claims were worked along the American River and on the upper reaches of the Cosumnes River. Many miners traveled into the Sierra Nevada via the San Joaquin Valley, and a number returned to the area around Stockton to start farms and ranches to supply the gold camps with meat and other goods. Stockton became a major commercial hub, with flour mills, grain and flour exporting, and factories for agricultural equipment such as harvesters and track-type tractors. In addition, boat building, which began in the 1850s, provided many of the paddle-wheel steamers that plied the

Delta, and the San Joaquin and Sacramento rivers, from 1849 to 1938 (McElhiney 1992). In 1933, the Port of Stockton opened, becoming the first and largest inland seaport in California.

The location known as Bellota has been mentioned in literature since 1890 and has appeared on maps since 1895. It had merchants, a school, and at least ten buildings by the turn of the Twentieth Century. Gudde (1969) mentions it was shown as Donnel on Hoffmann's map of 1873 and as Bellota on the von Leicht-Craven map of 1874. The precise spelling, *Bellota*, the Spanish word for acorn, was adopted in 1879 when the post office was established.

#### **4.5.2 Architectural Context**

The residential houses in the Project Area are most closely associated with the Ranch style of architecture. This architectural context is included to adequately evaluate the residence (BF-03) using CRHR Criterion 3 and NRHP Criterion C, which deal with architectural characteristics.

The Ranch style of architecture was favored for residential houses for many decades, from the 1930s through 1970s, including the period when the residence at ranch complex was built. The Ranch style design and form was largely a response to the high demand of post-World War II (WWII) housing needs.

The Contemporary style's popularity decreased due to lending institutions avoiding the design and preferring the Ranch style. The Federal Housing Authority (FHA) was not fond of homes with unusual roof forms and favored more traditional exterior detailing like shutters. The FHA was created in 1934 after the Great Depression. The goal of the FHA was to produce small homes the average working American could afford. The FHA also allowed home buyers to include all major appliances in the home loan amount and created publications that showed how to effectively design a small house. Buyers at this time realized that following these guidelines was the quickest way to ensure construction funds for their projects (McAlester 2013). By the 1950s, Minimal homes were being replaced by Ranch-style homes versus Contemporary after the war because larger homes could be built, became more affordable and easily financed, and reflected changes in preference that were realized over the upcoming decade (McAlester 2013).

This demand was caused by a natural population increase and the desire for larger homes suitable for larger families. Ranch styled homes originated in southern California in the mid-1930s. In the 1940s, FHA financing guidelines only allowed for small house types to be financed. After the financing guidelines were adjusted after WWII, ranch styled homes grew in popularity. Homes that FHA financed were discouraged to have a pronounced modern appearance; therefore, builders added traditional details to their ranch homes. Traditional details included decorative window shutters, window boxes, small roof cupolas, and decorations on gable ends (McAlester 2013). Homes built during this era were quickly sold. Homes built after 1955 in the United States were commonly built with three or more bedrooms (California Department of Transportation [Caltrans] 2011). These new homes were about 50 percent larger than the average house that was constructed in the 1940s to 1950s (Caltrans 2011). A new standard amenity was a second bathroom or half bath, which was rarely even seen in homes built prior to the 1940s (McAlester 2013).

Prior to the development of the Ranch style homes, the trend of compact houses on narrow lots were the standard. As automobiles became a main transportation for families after WWII, the use of narrow lots

was replaced with sprawling designs on wider lots. This change in design resulted in a broad and maximizing street facing façade (McAlester 2013).

Ranch style homes typically have an elongated form and are commonly single-story. Ranch homes are usually horizontal featuring low-pitch roofs with broad overhangs, unbroken eave lines, concrete slab floors, and grouped windows or large picture windows (McAlester 2013). More than half of Ranch styled homes have a large picture window on the front façade. After WWII, many factories used for war material production adapted to making domestic manufacture products. One of those products were pre-manufactured windows that now came in standardized sizes. Masonry detailing on the façade is also common, such as brick wainscoting or stone entryways. Entry ways that are covered are usually quite small in size and too narrow to be used as a porch, while the rear private yard is larger, easily accessed from the main living room, and may have more than one rear patio. Two-car garages or carports are also typical for Ranch-style homes in California. Detached garages are not common in the Ranch style, yet some models have a separate garage from the house. Detached garages were common before the 1920s. Since the 1920s, garages have been an accelerating trend that changed the overall size and shape of houses built between 1920 and 1950. One-car garages were common between 1930 and 1950; two-car garages more common later. The separation between the house and garage acts as an open breezeway but is still connected with the same roofline (Caltrans 2011).

The Colonial Revival Styled Ranch home is a subtype of the popular Minimal Traditional Cape Cod homes from the 1940s. Colonial Revival Styled Ranch homes are symmetrical with a prominent front door and varied roof heights. The main house is often side-gabled or hopped and clad in one material while attached wings may have a second clad material. Brick siding or wood cladding is common (McAlester 2013).

The most prominent Ranch style architect in Southern California was Cliff May, a sixth generation Californian born in 1908. May designed and built homes largely in the areas surrounding San Diego and Los Angeles and is credited with creating the California Ranch architectural style, originating in the early 1930s. May introduced the Western Ranch house through the California-based *Sunset Magazine*. Through his career, May designed and built hundreds of these modernized houses built specifically to fit the lifestyle of the American family. May's designs became particularly popular in the postwar 1950s and his designs were sold throughout the United States. He won dozens of awards in architecture and was a member of many home builders associations (Van Balgooy 2004). His most famous Ranch houses are scattered through the City of San Diego and the greater Los Angeles area. Many of his notable ranch houses include the la Casa de Larga Jornada in Santa Fe, the Red Bud custom house in Red Bluff, and the "Ranchos" neighborhood in Long Beach (Bricker 1983).

### **4.5.3 Cultural Resources Analysis**

ECORP requested a records search for the property at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University-Stanislaus was completed on December 16, 2021 (CCIC search #12004L; Appendix 1). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the Project Area,

and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Placer County, the following historic references were also reviewed: Historic Property Data File for Placer County (Office of Historic Preservation [OHP] 2012); The National Register Information System website (National Park Service [NPS] 2019); Office of Historic Preservation, California Historical Landmarks website (OHP 2019); California Historical Landmarks (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (Caltrans 2019); Caltrans State Bridge Survey (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

Other references examined include a RealQuest Property Search and historic General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2022). Historic and modern maps reviewed include:

- 1855 BLM GLO Plat map for Township 2 North Range 9 East;
- 1908 USGS Linden, California topographic quadrangle map (1:31,680 scale);
- 1953 USGS Linden, California topographic quadrangle map (1:24,000 scale);
- 1968 USGS Linden, California topographic quadrangle map (1:24,000 scale); and
- 1968 revised 1993 USGS Linden, California topographic quadrangle map (1:24,000 scale).

ECORP reviewed historic aerial photographs taken in 1941, 1959, 1967, 1984, and 1993 to present for any indications of property usage and built environment.

In addition to the official records and maps for archaeological sites and surveys reviewed during the records search at the CCIC, ECORP conducted focused property and site-specific archival research. Staff Archaeologist Megan Webb conducted the focused archival research on the property. Research efforts included review of historical maps, newspaper articles, and other available documents relating to the history of the property in an attempt to draw any relevant historical associations or significance to the cultural resource. Historical newspapers were reviewed to search for relevant names or dates associated with the property. ECORP reviewed the San Joaquin County Assessor's Plat Maps from 1876 to 1919 and various Linden Irrigation District maps published by the San Joaquin County Historical Society online. ECORP contacted the San Joaquin County Assessor's Office on February 11, 2022, for any additional property information.

ECORP also conducted research utilizing newspaper articles, historical maps, city directories, and secondary resources where available. Very few records were found containing specific information about the historic-period residence within the Project Area, other than the data available with the Assessor's office. ECORP conducted additional research at several online repositories for information related to the local Project Area history, as well as specific information about the Ranch style of residence that would assist in the evaluation of the building. Although little information was found, the archival research, online

research, and review of Assessor's records was sufficient for ECORP to prepare an evaluation of the building, Calaveras Headworks, and Bellota Weir located within in the Project Area.

There are no Sanborn Fire Insurance Maps available for the property due to it being located well outside the Stockton city limits. The results of archival research are incorporated into the historic and architectural context for the property and building in this report.

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on December 15, 2021, to request a search of the Sacred Lands File for the Area of Potential Effects. This search will determine whether the California Native American tribes within the APE have recorded sacred lands, because the Sacred Lands File is populated by members of the Native American community with knowledge about the locations of tribal resources. In requesting a search of the Sacred Lands File, ECORP solicited information from the Native American community regarding TCRs; however, the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal laws. The lead agencies have not delegated authority to ECORP to conduct tribal consultation.

ECORP mailed a letter to the San Joaquin County Historical Society on December 15, 2021, to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area.

ECORP subjected the APE to an intensive pedestrian survey on February 2 and 3, 2022 under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) using 15-meter transects. ECORP expended five person-days in the field. ECORP archaeologists examined the ground surface for indications of surface or subsurface cultural resources and inspected the general morphological characteristics of the ground surface for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the archaeologists examined the locations of subsurface exposures caused by factors such as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits.

Additionally, ECORP completed boundary definition testing for the pre-contact site P-39-4531. ECORP used auger probes and surface scrapes to confirm the spatial extent and determine the depth of archaeological deposits. ECORP archaeologists excavated 0.5- by 0.5-meter surface scrapes to a depth of 5 centimeters below surface (cmb) and 3-inch-diameter auger probes to a depth of 60 to 100 cmb. The archaeologists screened all excavated soils through one-eighth-inch mesh and returned the soils and artifacts following completion. The archaeologists recorded the presence or absence of archaeological deposits on Department of Parks and Recreation (DPR) 523 forms. Additional information included soil descriptions and smears to determine soil color. A photograph of recovered materials, completed excavation units, and site overviews were documented on photo logs.

All previously recorded cultural resources encountered during the survey were updated using DPR 523-series forms approved by the California OHP. The resources were photographed, mapped using a handheld GPS receiver, and sketched as necessary to document their presence using appropriate DPR forms.

**4.5.4 Cultural Resources (V) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated**

One pre-contact resource, P-39-4531 (a pre-contact habitation site) has been previously recorded within the Project Area. ECORP archaeologists completed testing to determine site boundaries for the pre-contact resource. Additionally, ECORP identified three cultural resources within the Project Area: BF-01, a historic-period weir; BF-02, a historic-period gauging station; and BF-03, a historic-period residence.

**4.5.4.1 P-39-4531 (Pre-contact Habitation Site)**

ECORP could not locate any information in the ethnographic literature or existing documentation to suggest that P-39-4531 is associated with any known important historic events or persons. Therefore, P-39-4531 does not meet the criteria to be eligible under National Register of Historic Places (NRHP) Criteria A and B or California Register of Historic Resources (CRHR) Criteria 1 and 2. P-39-4531 has no distinctive architectural or engineering characteristics and does not meet the criteria to be eligible under NRHP Criterion C or CRHR Criterion 3. Separate tribal consultation may inform the agencies’ decisions on eligibility under NRHP A and B or CRHR 1 and 2, however.

ECORP observed greenstone artifacts in the gravel bars of Mormon Slough, downstream of the documented location of the intact portion of P-39-4531; however, vegetation and concrete riprap obscured the bank preventing the archaeologists from confirming the location of the intact deposits. Following the pedestrian survey, ECORP placed three auger tests in the bank above the location of the P-39-4531. These tests indicated that P-39-4531 is still intact in the banks of the Slough; however, the depth of deposits makes an evaluation using subsurface testing is not practical. Therefore, because the cultural material from P-39-4531 could be used to address research questions, it has the potential to yield information important in prehistory and is eligible under NRHP Criterion D and CRHR Criterion 4. However, the portions of P-39-4531 that have eroded into the gravel bars do not represent an intact portion of the site, and therefore do not have data potential and would not be a contributing element to the eligibility of the resource under NRHP Criterion D and CRHR Criterion 4.

As such, site P-39-4531 is considered eligible for the CRHR (under Criterion 4) and is considered an Historical Resource as defined by CEQA. Because site P-39-4531 is located within the Project Site where ground disturbing construction activities would occur, disturbance of P-39-4531 would be considered a potentially significant impact to an historical resource. Implementation of Mitigation Measures **CUL-1**, **CUL-2**, and **CUL-3** would reduce this impact to **less than significant with mitigation incorporated**.

#### **4.5.4.2 BF-01; Historic Bellota Weir**

This historic-period resource is the Bellota Weir, which consists of poured concrete along the banks of Mormon Slough, a fish ladder, and a raised concrete slab in the middle, below the water level.

**NRHP Criterion A/CRHR Criterion 1:** Archival research did not provide any information suggesting this water conveyance system as a whole and diversion structure in particular are in any way tied to an important historical event or series of events. It was not the first, or largest, or a particularly innovative water conveyance system of its time on a local, regional, or national level. The first dam on Mormon Slough was built in 1909 and since then, several dams and other water conveyance system and flood control features have been built in the San Joaquin County region. The Calaveras River watershed contains hundreds of artificial structures located downstream from the New Hogan Dam (California Department of Water Resources et al. 2007). Further, the structure was constructed on Mormon Slough in the late 1940s, which post-dates the period of significance for water conveyance and irrigation in the Central Valley and foothills. Therefore, the Bellota Wier and diversion structure does not meet the criteria to be eligible under NRHP Criterion A or CRHR Criterion 1.

**NRHP Criterion B/CRHR Criterion 2:** In 1949, S&ESJWCD deepened the mouth of the Old Calaveras River and constructed the Bellota Weir. In 1978, SEWD constructed the diversion structure. The Bellota Weir is associated with the S&ESJWCD and later SEWD when the company changed names in the 1970s. Neither the S&ESJWCD or SEWD as a group, or any of its employees, are considered significant historical figures. The two companies had built several other water systems within the county. Further, any significance S&ESJWCD or SEWD, or any employees, may have gained is not conveyed by the diversion structure. Therefore, the Bellota Weir and diversion structure does not meet the criteria to be eligible under NRHP Criterion B or CRHR Criterion 2.

**NRHP Criterion C/CRHR Criterion 3:** This water control and conveyance feature is primarily of utilitarian construction and is not aesthetically or artistically designed. It does not embody the distinctive characteristics of a type, period, or method of construction. The diversion structure is a typical dam design, similar to hundreds of water diversion structures in California. In 1978, SEWD built a diversion structure northeast of the existing Bellota Weir. The weir itself has been maintained for decades and was likely improved since its original construction. It continues to channel water at the present time. It does not represent a significant and distinguishable entity whose components lack individual distinction because they are single features and were not demonstrated to be part of a greater whole. The associated structures (Buildings 2 and 3) are also utilitarian in style and are not engineering marvels, and clearly do not represent the work of a master. Their design is functional and does not convey any particular historically significant water management or conveyance concept or unique engineering approach. Therefore, the Bellota Weir and diversion structure do not meet the criteria to be eligible under NRHP Criterion C or CRHR Criterion 3.

**NRHP Criterion D/CRHR Criterion 4:** This water control feature is a utilitarian water management feature that does not possess subsurface potential and was, therefore, not archaeologically tested. As an above-ground feature, all the information it can provide is visible and its construction history has been relatively well documented. Information about land ownership, operations and maintenance is available

from archival research. Therefore, the weir and diversion structure do not have the potential to provide important information about history that is not already known and does not meet the criteria to be eligible under NRHP Criterion D or CRHR Criterion 4.

The Bellota Weir and diversion structure retain integrity of location because they are in the place where they were originally built in the late 1940s and late 1970s, respectively. There is no indication that the Bellota Weir has been moved since that time, although the dam may have been expanded or widened since its construction. The combination of elements that created the original form, style, and function of the resource was expressed in its placement and construction on the landscape, and it remains situated amidst a rural landscape that has remained virtually unchanged, although its facilities and features have been upgraded in recent times. Thus, it retains integrity of setting but does not retain integrity of design, materials, or workmanship. The integrity of feeling is compromised by the recent upgrades, as it looks and operates like a modern dam and is well maintained. The diversion structure does retain association with water conveyance in the Central Valley and foothills, despite holding no significance within that context.

Regardless of integrity, the Bellota Weir and diversion structure have been evaluated as not eligible for the NRHP or CRHR as an individual property and is not a contributor to any known or suspected historic districts. Therefore, impacts related to removal and replacement of the existing wier are considered **less than significant**. No mitigation is required.

#### **4.5.4.3 BF-02; Historic-period Calaveras Headworks**

This historic-period resource is the Calaveras Headworks and consists of concrete slope lining along the banks, four culverts with concrete gates, a trash rack, and a raised wood platform in the middle.

**NRHP Criterion A/CRHR Criterion 1:** Archival research did not provide any information suggesting this water conveyance system is related any way to an important historical event or series of events. It was not the first, or largest, or a particularly innovative water conveyance system of its time on a local, regional, or national level. The first dam on Mormon Slough was built in 1909 and since then, several dams and other water conveyance systems and flood control features have been built in the San Joaquin County region. The Calaveras River watershed contains hundreds of artificial structures located downstream from the New Hogan Dam (California Department of Water Resources et al. 2007). Further, the structure was constructed on the Calaveras River channel in the 1930s, which post-dates the period of significance for water conveyance and irrigation in the Central Valley and foothills. Though the headworks was constructed partially by the WPA, it is not significantly associated with any historical contributions to history of the WPA, nor is it a historically recognized component of their history. Therefore, the Calaveras Headworks structure does not meet the criteria to be eligible under NRHP Criterion A or CRHR Criterion 1.

**NRHP Criterion B/CRHR Criterion 2:** In the 1930s, The Linden Irrigation District and/or the WPA constructed the Calaveras Headworks structure to control the flow and prevent flooding downstream by routing flood waters down the Mormon Slough. The Calaveras Headworks is associated with the Linden Irrigation District and/or the WPA. Further, the Linden Irrigation District and/or the WPA entities are responsible for construction and maintenance of dozens of water control features, and this feature alone does not convey significance. Therefore, the feature is not associated with any specific person or group of



people significant in local, California, or United States history. There are no other indications that the feature is associated with any other specific persons significant in the history of the region, county, or state. Therefore, Calaveras Headworks is not eligible under NRHP Criterion B or CRHR Criterion 2.

**NRHP Criterion C/CRHR Criterion 3:** The Calaveras Headworks is a typical water control feature with common and ubiquitous design, construction, and engineering. Research did not identify any unique or marvelous techniques used in the construction or design of the system that was not already widely used and common among irrigation and water conveyance systems in the region, the state, and the country. The feature has an earthen berm on the west side, and the slopes of the Calaveras River channel were lined with concrete by the WPA in 1936 as part of a typical improvement, common among water conveyance systems. The funding, implementation, and intent of the WPA lining was not unique or outstanding in history. The Calaveras Headworks is one of numerous dams and water control systems of similar age and constructed along the Calaveras River channel. Therefore, the Calaveras Headworks dam feature is not eligible under NRHP Criterion C or CRHR Criterion 3.

**NRHP Criterion D/CRHR Criterion 4:** This water control feature is a utilitarian landscape feature that does not possess subsurface potential and, therefore, was not archaeologically tested. As an above-ground feature, all the information it can provide is visible and its construction history has been relatively well documented. Information about land ownership, operations, and maintenance is available from archival research. Therefore, the Calaveras Headworks dam feature does not have the potential to provide important information about history that is not already known and does not meet the criteria to be eligible under NRHP Criterion D or CRHR Criterion 4.

The Calaveras Headworks largely retains all aspects of integrity. It remains in the original location where it was constructed, within the same type of agricultural environment, and largely still expresses the aesthetic sense of the mid- to late-20th century due to the lack of modern development in the immediate vicinity. Therefore, the Calaveras Headworks retains its integrity of location, setting, and feeling. Although it has been regularly maintained, and concrete-lined, the combination of elements that create the form, plan, and space remain intact, as do the elements that were combined to create the specific configuration of the dam. It still expresses the physical evidence of the typical methods of 1930s improvements to water control features. Therefore, it largely retains integrity of design, materials, workmanship, and association.

Regardless of integrity, the Calaveras Headworks is evaluated as not eligible for the NRHP or CRHR as an individual property and is not a contributor to any known or suspected historic districts. Therefore, impacts related to removal and replacement of the Calaveras headworks are considered **less than significant**. No mitigation is required.

#### **4.5.4.4 BF-03; Historic-age Residence**

This historic-period resource is a residence located at 24350 East Highway 26 consisting of a small, single-story house constructed in 1966,

### **CRHR Criterion 1, NRHP Criterion A**

No information was found in the archival record to suggest that the residence is associated with an important historical event or contributed to the broad patterns of history. The property is not associated with any major or significant event in the history of the Bellota area and does not convey the significance of the Bellota area or its historic development. The building is not directly associated, in a significant way, to the agricultural development of Linden or Bellota or the region. It may be related to the agricultural context of the area but does not contribute to the historical importance or have significant association with that context. The house likely was used as a residence for the farmer. It is also not associated with any significant local context or statewide or national trend in agricultural development and is not associated with other locally significant historical agricultural operations. In addition, the residence is not associated with any existing historic district. Therefore, the residence is not related to the broad patterns of history or individually significantly associated with San Joaquin County, California, or the nation and is not eligible under CRHR Criterion 1 or NRHP Criterion A.

### **CRHR Criterion 2, NRHP Criterion B**

No noted individual is significantly associated with the residence. No known significant individuals have any direct association with the residence; residential owners likely have changed multiple times throughout the years, with none having a profound historically significant impact. Therefore, the residence is not associated with the lives of persons significant in the past and is not eligible under CRHR Criterion 2 or NRHP Criterion B.

### **CRHR Criterion 3, NRHP Criterion C**

The building is a simple residential structure with some influence from the Ranch style of architecture but is primarily built with vernacular influence. The Ranch style is evidenced in this building by the gable roof, large picture windows on the facades, broad front porch, brick detailing, and brick chimney, but does not contain any ornamental or architectural detailing. Ranch-style homes were constructed to be a broad, single-story shape with an asymmetrical façade and were most prevalent from 1935 to 1975. The building is primarily a small farmhouse. It is not a good representation of the Ranch style of architecture because it is a humble design, as compared to other local examples throughout historic districts in downtown areas that have appealing favored features. The house was built and designed by an unknown individual; however, based on the simplistic design of the residence, it was clearly built with cost and function in mind rather than architectural distinctiveness. It was also clearly not designed by Cliff May or any other notable architect in Ranch style architecture, nor is it an example of early or significant Ranch style design. Its architectural influences are a product of the popularity of the styles during the period, local utility, and cost. It does not embody distinction among other buildings built during that period. The vernacular architectural elements of the building include its footprint and overall structural massing. It was designed for rural living, with brick and large exposed beams that appear to be personal preferences for its design. Its architectural style is a product of the rural location and typical designs of the region but does not embody distinction among other buildings built in the region or of ranch architectural style.

The techniques employed for construction and maintenance of the residential building were in existence prior to construction of the building and not unique and, therefore, are not historically significant. The residence does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or possess any significant distinguishable components. Therefore, the residence is not eligible under NRHP Criterion C or CRHR Criterion 3.

**CRHR Criterion 4, NRHP Criterion D**

The residential building does not have the potential to yield information important in prehistory or history. Archival research potential for the building has been exhausted, and the building’s history is not well documented in the archival record. Because the residence was constructed and in use post-WWII and lacks outhouses, privies, or dump pits, it has little potential to provide additional historically important information. There is no potential for the building to provide additional information that is not already represented in the archival record. In addition, buildings built after the 1930s are not likely to have associated archaeological deposits, such as privies or refuse deposits, because by that time modern utilities, services, and plumbing had reduced the need for facilities outside of the home. As a result, the residence is not eligible under NRHP Criterion D or CRHR Criterion 4.

**Integrity:** The site visit to the residential building indicates that the building retains integrity of location, workmanship, and materials. The building appears to have never moved location and remains in place within the parcel. The building itself remains intact structurally and still maintains many original components, including the metal-framed casement and main structure. The roof has clearly been redone, but the materials of the remainder of the house remain intact. The building appears to have damage from a small fire, which has impaired some of the roof. Other than fire damage, the building has received only minor maintenance over the years, thus retaining many of its original materials and workmanship. The building, however, no longer serves its original purpose of a residential home because the building is vacant. Therefore, the residential building no longer retains integrity of design, feeling, association, and setting.

Regardless of integrity, the building is not eligible for the NRHP and CRHR. Therefore, impacts related to removal and replacement of the existing historic-age residence are considered **less than significant**. No mitigation is required.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated.**

As discussed above, P-39-4531 is considered a significant historic resource under CEQA. It is also considered a significant archaeological resource pursuant to State CEQA Guidelines Section §15064.5. Subsurface testing performed at P-39-4531 confirmed that pre-contact subsurface cultural deposits are

present on the Project Site. However, the deposits are deeper than the proposed depths of excavation in that area. While Shovel Test Pits (STPs) were conducted in an attempt to determine the limits of P-39-4531, a clear demarcation of the site was not possible, and it is possible that additional archaeological deposits will be encountered during ground-disturbing activities associated with the Project. Such disturbance of the existing deposits would affect the site’s integrity of location and materials which would be considered a potentially significant. Implementation of Mitigation Measures **CUL-1, CUL-2, and CUL-3** would reduce this impact to **less than significant with mitigation incorporated**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated.**

There are no known burial sites located within the Project Area; however, there is always a potential that ground-disturbing activities will expose previously unknown human remains. Therefore, implementation of Mitigation Measure **CUL-3** would be required to reduce potential impacts to **Less than Significant with mitigation incorporated**.

**4.5.5 Mitigation Measures**

**CUL-1: Monitoring at P-39-4531**

All ground-disturbing activities within 15 meters (50 feet) of the intact portion of P-39-4531 shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards for pre-contact and historic archaeologist. The portions of the resource along the floor of Mormon Slough are not intact and therefore do not require archaeological monitoring.

**CUL-2: Contractor Awareness Training**

An archaeological sensitivity training program shall be developed and implemented during a pre-construction meeting for construction supervisors. The contractor awareness training shall be conducted and/or supervised by a professional archaeologist meeting the standards specified above. The training shall be conducted prior to any ground disturbing activities within the property. The program will provide information about notification procedures when potential archaeological material is discovered, procedures for coordination between construction personnel and monitoring personnel, and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during Project construction. This protocol shall be communicated by a video on a DVD to all new construction personnel during orientation, and on a poster that is placed in a visible location inside the construction job trailer.

**CUL-3: Stop Work if Cultural Resources or Human Remains are Detected**

If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor required by Mitigation Measure CUL-1, all work must halt within 20 feet of the discovery. The monitor shall notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify SEWD, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures shall be implemented. Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the San Joaquin County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the SEWD must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until SEWD, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.

## 4.6 Energy

This section provides an evaluation of the Project’s energy consumption and potential for inefficient use of energy or conflicts with state or local plans associated with renewable energy and energy efficiency.

### 4.6.1 Environmental Setting

Fuel consumption is considered in this analysis as the primary source of energy that would be used for Project construction. Off-road annual fuel consumption in the construction and mining equipment sector for San Joaquin County from 2016 to 2020 is shown in Table 4.6-1.

<b>Year</b>	<b>San Joaquin County (Gallons)</b>
2021	12,561,538
2020	12,128,411
2019	11,126,299
2018	12,128,411
2017	12,561,538

Source: CARB 2021

### 4.6.2 Energy (VI) Environmental Checklist and Discussion

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less than significant impact.**

The impact analysis focuses on the source of energy that is relevant to the Proposed Project: equipment-fuel necessary for Project construction. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed facility modification project. For the purpose of this analysis, the amount of fuel necessary for Project construction is calculated and compared to that consumed by off-road equipment in San Joaquin County. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry’s General Reporting Protocol for the Voluntary Reporting Program,

Version 2.1 (See Appendix E). Table 4.6-2 shows the estimated fuel consumption needed for Project construction.

<b>Table 4.6-2. Estimated Project Construction Fuel Consumption</b>		
<b>Energy Type</b>	<b>Off-Road Fuel Consumption (Gallons)</b>	<b>Percentage Increase</b>
Project Construction Year 1	12,118	0.09
Project Construction Year 2	76,256	0.60
Project Construction Year 3	41,281	0.32
Project Construction Year 4	30,443	0.24

Source: Climate Registry 2016. See Appendix E

Notes: The Project increases in construction fuel consumption are compared with the countywide off-road equipment fuel consumption in the 'construction and mining' equipment sector in 2021, the most recent full year of data.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project site. The fuel expenditure necessary for construction would be temporary, lasting only as long as Project construction. As shown in Table 4.6-2, Project fuel consumption during the one-time construction period is estimated to be 12,118 gallons of fuel during year 1 of construction, 76,256 gallons of fuel during year 2 of construction, 41,281 gallons of fuel during year 3 of construction, and 30,443 gallons of fuel during year 4 of construction. This would increase the total annual off-road fuel use in the county by 0.09 percent in the first year of construction, 0.60 percent in the second year of construction, 0.32 percent in the third year of construction, and 0.24 percent in the fourth year. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times (California Health and Safety Code 44275-44299.2) and requiring recycling of construction debris (Title 14, CCR Division 7), would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

During operation, the Project would result in a slight increase in energy use compared to existing conditions resulting from operation of an air compressor required to inflate the new bladder dam. The Project would also construct a new approximately 1,200-square-foot Shop and Control Building which would provide storage functions and house Project related mechanical and electrical equipment within a climate-controlled environment with related HVAC electric demand typical of similar facilities.

Based on the above discussion there would be no wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation and as such, this impact would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

This impact analysis focuses on fuel consumption during the one-time construction period. As discussed above, Project construction would have a nominal effect on local and regional energy supplies. Furthermore, the proposed improvements would be consistent with the goals and objectives of the Calaveras River Anadromous Fish Protection Project and requirement of the CHCP. For these reasons, there is **no impact**.

**4.6.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.7 Geology and Soils**

This section describes the effects of the construction and operation of the Project on geology and soils. The existing environmental and regulatory conditions specific to those issues are described and the potential impacts of the Project are addressed. An overview of the methods used herein to assess potential Project impact are provided, as are impact significance thresholds.

The impact of the Project on scour/erosion related to site preparation, demolition, and construction activities is evaluated in *Section 4.10 Hydrology and Water Quality*. The evaluation presented below focuses on geologic changes due to removal of the existing Bellota Concrete Dam and Flashboard Weir and installation of proposed new facilities under the Proposed Project. This includes analysis of the potential for impacts related to earthquake and seismic-related ground failure including liquefaction, landslide, soil erosion, and paleontological resources.

Information contained in this section is based in part on technical reports and assessments including: the *Draft (90%) Geotechnical Investigation Report, Bellota Weir Modifications Project, Mormon Slough, Calaveras River, CA* (HDR 2022b), the *Draft 90% Hydraulic Modeling Summary Report, Bellota Weir Modifications Project Mormon Slough, Calaveras River* (HDR Inc. & KSN Inc. 2022), and the *Draft (90%) Design Documentation Report, Bellota Weir Modifications Project, Mormon Slough, Calaveras River, CA*. (HDR Inc. 2022). These reports are included in initial study Appendix A.



#### **4.7.1 Environmental Setting**

San Joaquin County lies in the region of the confluence of the San Joaquin and Sacramento rivers. The San Joaquin Valley is bordered on the west by the coast ranges and to the east by the foothills of the Sierra Nevada. The San Joaquin Valley basin has been filled over time with up to a 6-mile-thick sequence of interbedded clay, silt, sand, and gravel deposits. The sediments range in age from more than 144 million years old (Jurassic Period) to less than 10,000 years (Holocene Period). The most recent sediments consist of coarse-grained (sand and gravel) deposits along river courses and fine-grained (clay and silt) deposits located in low lying areas or flood basins and are referred to as alluvial deposits. These deposits are loose and not well consolidated soils. Older alluvial deposits underlie the edges of the valley. The older alluvial deposits are exposed in the foothill regions in the eastern portion of the County (HDR 2022b).

The Project site is mapped as being underlain by the lower member of the Modesto Formation, a quaternary age alluvial deposit that has infilled a narrow valley between ridges. The lower member of the Modesto Formation is composed primarily of sand, a substantial proportion of the deposits is well-stratified silt and fine sand, especially near the base of the unit and toward alluvial fan toes. Gravel also makes up a significant part of the lower member, particularly close to the foothills near or above the lower Modesto fan apexes. The ridges north and south of the site are mapped as Pleistocene and/or Pliocene sandstone, shale, and gravel deposits (HDR 2022b).

##### **4.7.1.1 Geomorphic Setting**

According to the geologic maps by Marchant and Bartow (1979) and Wagner et al (1981), the Project site is entirely on the Pleistocene Modesto Formation (Qm2f). A one-mile search area around the Project site shows additional formations including Holocene alluvium (Qha), the Pleistocene Riverbank Formation (Qr3, Qr2), the Pliocene–Pleistocene North Merced Gravel (Qtl), the Pliocene Laguna Formation (Tl), and the Miocene–Pliocene Mehrten Formation.

##### **4.7.1.2 Regional Seismicity and Fault Zones**

An *active fault*, according to California Department of Conservation, Division of Mines and Geology, is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered “inactive.”

##### **4.7.1.3 Liquefaction**

Earthquake-induced soil liquefaction can be described as a significant loss of soil strength and stiffness caused by an increase in pore water pressure resulting from cyclic loading during shaking. Liquefaction is associated primarily with loose (low density), saturated, fine- to medium-grained, cohesionless soils below the groundwater table, but can also occur in non-plastic to low-plasticity finer grained soils. The potential consequences of liquefaction to engineered structures include loss of bearing capacity, buoyancy forces on underground structures, ground oscillations or cyclic mobility, increased lateral earth pressures on retaining walls, liquefaction settlement, and lateral spreading or flow failures in slopes (HDR 2021).

**4.7.1.4 Soils**

According to the U.S. Department of Agriculture’s NRCS Web Soil Survey website (NRCS 2019), one soil type is located within the Project Area: Cognia Loam (129), 0 to 2 percent slopes, composed of very deep, well-drained soils found on low fan terraces and alluvial fans, formed in alluvium derived from mixed rock sources. The NRCS also indicates the presence of water on the table of soil types for the Project Area.

**4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

i) and ii)

No known active faults or Alquist-Priolo earthquake zones are present in San Joaquin County. Although the site is within the Central Valley part of California, which is considered to be seismically stable, earthquake activity in neighboring regions, namely the Sierra Nevada and San Francisco Bay area, could affect the Project site with ground shaking. However, the closest active fault to the site is the Midland Fault which is located more than 30 miles west of the Project site. The Foothill Fault Zone located to the east are generally not considered active nor used as independent seismic sources by the United States Geological Survey (HDR 2021). Thus, impacts resulting from a known earthquake fault or due to strong seismic ground shaking would be **less than significant**.

iii)

According to the San Joaquin County Community Development Department online natural hazards disclosure page, no areas within the County have been identified as Seismic Hazard Zones that include the

occurrence of liquefaction. However, according to a geotechnical investigation conducted for the Project, the south bank of Mormon Slough has a moderate potential to experience liquefaction (HDR 2021). Due to wide variation in calculated settlements and the proximity of the proposed structures to the river, differential settlements could be significant. Given this setting, the *Draft Geotechnical Investigation Report* prepared for the Project (HDR 2022b) recommends Project structures be supported on deep foundations to gain support in the stiff to hard soils in the older alluvium, 90 feet below ground level. Because Project design adheres to the *Draft Geotechnical Investigation Report* (Appendix A3) recommendations, potential impacts related to liquefaction would be **less than significant**.

iv)

HDR (HDR 2021) evaluated Project site slope stability and concluded that overtime the upper portion of the slope of the riverbank may continue to erode. Because recommendations provided in the *Draft Geotechnical Investigation Report* (Appendix A3) would be implemented as part of Project design and construction, potential impacts related to land sliding would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

BMPs would be included as part of the SWPPP prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction. For further discussion of SWPPP requirements, see Section 4.10 Hydrology and Water Quality. With implementation of SWPPP BMPs, soil erosion impacts would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

See response to a), above. Construction would be consistent with the Project’s Geotechnical Report which includes recommendations designed to address and mitigate site-specific soil conditions. Therefore, related impacts would be **less than significant**, and no mitigation is required.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Construction would be consistent with the Project’s Geotechnical Report, which includes recommendations designed to address and mitigate site-specific soil conditions. Therefore, related impacts would be **less than significant**, and no mitigation is required.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Proposed Project would not generate wastewater. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant with mitigation incorporated.**

A records search for paleontological resources was performed by Kenneth Finger, PhD. through the UCMP. Dr. Finger’s analysis and recommendations are included with this Draft IS/MND as Appendix F. Although the geologic units in the search area have yielded an abundance of significant paleontological resources, none has been recovered within 10 miles of the Project site; hence, the probability of the Project encountering any significant paleontological resources is very low and paleontological construction monitoring is not recommended. However, because all six geologic units found in the Project search area are sedimentary, unknown paleontological resources could be discovered and damaged during construction which is considered a potentially significant impact. With implementation of mitigation measure **GEO-1**, this impact would be reduced to **less than significant with mitigation incorporated**.

### 4.7.3 Mitigation Measures

#### GEO-1: Discovery of Unknown Paleontological Resources

- Prior to any earth-disturbing activities, a professional paleontologist will provide the construction crew with a brief orientation to the fossils that could be unearthed and the appropriate action that should be taken should that occur. During that visit to the site, and prior to orientation session, the paleontologist will also perform a paleontological walkover survey.
- If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be diverted at least 15 feet away from the discovery and the area shall be isolated using orange or yellow fencing until SEWD is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples should be collected and processed to determine the small fossil potential on the Project site. If SEWD resumes work in a location where paleontological remains have been discovered and cleared, SEWD shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

## 4.8 Greenhouse Gas Emissions

### 4.8.1 Environmental Setting

Greenhouse gases (GHGs) are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps more than 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub>. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e). Expressing GHG emissions in CO<sub>2</sub>e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO<sub>2</sub>e including from imported

electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2020). Emissions of CO<sub>2</sub> are byproducts of fossil fuel combustion. CH<sub>4</sub>, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N<sub>2</sub>O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through sequestration and dissolution (CO<sub>2</sub> dissolving into the water), respectively, two of the most common processes for removing CO<sub>2</sub> from the atmosphere.

## **4.8.2 Regulatory Setting**

### **4.8.2.1 Executive Order S-3-05**

EO S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

### **4.8.2.2 Assembly Bill 32 Climate Change Scoping Plan and Updates**

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

### **4.8.2.3 Senate Bill 32 and Assembly Bill 197 of 2016**

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40

percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

#### **4.8.2.4 Senate Bill 100 of 2018**

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

#### **4.8.2.5 San Joaquin Valley Air Pollution Control District**

The SJVAPCD provides a tiered approach in assessing significance of project specific GHG emission increases. Projects implementing Best Performance Standards would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual (BAU), is required to determine that a project would have a less than cumulatively significant impact. The BAU approach was developed consistent with the GHG emission reduction targets established in the Scoping Plan. However, the BAU portion of the tiered approach is problematic based on the *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 225, 229 (also known as the "Newhall Ranch" decision). In the Newhall Ranch decision, the California Supreme Court explained that use of a BAU method, in which a project that demonstrates certain GHG reductions below the Scoping Plan's BAU scenario, is an acceptable methodology for determining potentially significant GHG emissions effects for purposes of CEQA; however, such a BAU approach must include substantial evidence showing how a project-level reduction in GHG emissions "in comparison to business as usual is consistent with achieving A.B. 32's statewide goal of a 29 percent reduction from business as usual." Examining the Newhall Ranch project's EIR, the Court further explained that:

[a]t bottom, the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas emissions reduction effort required by the state as a whole, and attempting to use that method, without consideration of any changes or adjustments, for a purpose very different from its original design: To measure the efficiency and conservation measures incorporated in a specific land use development proposed for a specific location. The EIR simply assumes that the level of effort required in one context, a 29 percent reduction from business as usual statewide, will suffice in the other, a specific land use development. From the information in the administrative record, we cannot say that conclusion is wrong, but neither can we discern the contours of a logical argument that it is right. The analytical gap left by the EIR's failure to establish, through substantial evidence and reasoned explanation, a quantitative equivalence between the Scoping Plan's statewide comparison and the EIR's own project-level comparison deprived the EIR of its "sufficiency as an informative document." (*Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 227, internal citations omitted.) Thus, given this Project's scope and relatively low projected GHG emissions, the project-level to state-level BAU comparison required in the Newhall Ranch decision would be inappropriate for the Project's analysis of GHG emissions. The BAU approach is further inapt because the SJVAPCD thresholds are based on statewide GHG-reduction targets for the year 2020, and the Project would be implemented beginning in the year 2022.

#### **4.8.2.6 San Joaquin County General Plan Public Health and Safety Element**

The 2016 Public Health and Safety Element of the San Joaquin County General Plan contains goals and policies that address GHG-related issues within San Joaquin County. The following policy is identified as being applicable for consideration in CEQA review of the Project:

*PHS-6.7: New Development. The County shall require new development to incorporate all feasible mitigation measures to reduce construction and operational GHG emissions.*

#### **4.8.2.7 California Air Pollution Control Officers Association**

California law has established thirty-five local air pollution control districts in California. These range from small, single county districts such as Lassen, to multi-county agencies such as the Bay Area and South Coast Air Quality Management Districts (AQMD). Districts provide local expertise and knowledge of local conditions to deal with local problems. They are governed by Boards consisting primarily of elected officials, and are staffed by engineers, planners, attorneys, inspectors, meteorologists, chemists, and technicians. In general, these local districts are responsible for control of stationary sources of emissions. While mobile source emissions are mostly controlled by state and federal regulations, local districts do have authority to implement control measures which affect transportation sources, including automobiles. Local district activities are overseen by both the state and federal agencies. The CAPCOA is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including the SJVAPCD. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing of knowledge, experience, and information among the air quality regulatory agencies around the State. The Association promotes unity and efficiency and strives to encourage consistency in methods and practices of air pollution control. It is an organization of air quality professionals. CAPCOA meets regularly with federal and state air quality officials to develop statewide rules and to assure consistent application of rules and regulations. CAPCOA actively participates in the development and implementation of air quality bills that speed progress toward healthful air quality, reduce costs, and generally streamline air quality laws.

CAPCOA has established a GHG significance threshold of 900 metric tons of CO<sub>2</sub>e annually for assessing proposed land use development projects. This threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 900 metric tons of CO<sub>2</sub>e per year value is typically used in defining small projects within California that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. The 900 metric ton threshold is considered by CAPCOA to be low enough to capture a substantial fraction of future residential and nonresidential development that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.



**4.8.3 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Implementation of the Project would generate GHG emissions from worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., excavators, graders).

The State CEQA Guidelines Appendix G thresholds for GHG’s do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies “shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project’s GHG emissions or rely on a “qualitative analysis or other performance-based standards.” (14 CCR 15064.4(b)). A lead agency may use a “model or methodology” to estimate GHG emissions and has the discretion to select the model or methodology it considers “most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change.” (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. 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 (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). As a

note, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, HCP, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. As previously described, portions of the SJVAPCD significance thresholds are problematic based on the Newhall Ranch decision. Therefore, for the purposes of this analysis Project GHG emissions are quantified and compared to the threshold issued by CAPCOA, previously described. This threshold is based on a capture rate of 90 percent of land use development projects, which in turn translates into a 90 percent capture rate of all GHG emissions.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the*

*Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

Table 4.8-1 illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

<b>Table 4.8-1. Construction-Related Greenhouse Gas Emissions</b>	
<b>Emissions Source</b>	<b>CO<sub>2</sub>e (Metric Tons/Year)</b>
<b>Construction Year One</b>	
Phase 1A Construction	123
<b>Construction Year One Total</b>	<b>123</b>
<i>CAPCOA's Potentially Significant Impact Threshold</i>	<i>900 metric tons/year</i>
<b>Exceed CAPCOA's Significance Threshold?</b>	<b>No</b>
<i>Construction Year Two</i>	
Phase 1B-1D Construction	699
Phase 2 Construction	75
<b>Construction Year Two Total</b>	<b>774</b>
<i>CAPCOA's Potentially Significant Impact Threshold</i>	<i>900 metric tons/year</i>
<b>Exceed CAPCOA's Significance Threshold?</b>	<b>No</b>
<b>Construction Year Three</b>	
Phase 2 (continued)	92
Phase 3	188
Phase 4	139
<b>Construction Year Three Total</b>	<b>419</b>
<i>CAPCOA's Potentially Significant Impact Threshold</i>	<i>900 metric tons/year</i>
<b>Exceed CAPCOA's Significance Threshold?</b>	<b>No</b>
<b>Construction Year Four</b>	
Phase 4 (continued)	188
Phase 5	121
<b>Construction Year Four Total</b>	<b>309</b>
<i>CAPCOA's Potentially Significant Impact Threshold</i>	<i>900 metric tons/year</i>
<b>Exceed CAPCOA's Significance Threshold?</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Appendix B for Model Data Outputs.

As shown in Table 4.8-1, the Project would result in the generation of approximately 123 metric tons of CO<sub>2</sub>e during the first year of Project construction, 774 metric tons of CO<sub>2</sub>e during the second year of Project construction, 419 metric tons of CO<sub>2</sub>e during the third year of Project construction, and 309 metric tons of CO<sub>2</sub>e during the fourth year of construction. Thus, emissions would not exceed the CAPCOA's

potentially significant impact threshold of 900 metric tons of CO<sub>2</sub>e annually. Once complete, the generation of these GHG emissions would cease.

Once construction is complete, no additional daily vehicle trips or personnel would be added to operate or maintain the proposed improvements beyond existing conditions. Thus, the Proposed Project would not include the provision of new permanent stationary or mobile sources of GHG emissions, and therefore, by its very nature, would not generate quantifiable criteria emissions from Project operations.

As discussed above, the Project would not generate construction or operational greenhouse gas emissions in quantities that would exceed applicable thresholds and consequently related impacts are **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact**

The County of San Joaquin does not have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, as previously described the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (SB 32). As previously described, temporary Project-related GHG emissions during construction would not exceed GHG significance thresholds, which were developed in consideration of statewide greenhouse reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Thus, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases and related impacts are considered **less than significant**.

**4.8.4 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.9 Hazards and Hazardous Materials**

**4.9.1 Regulatory Setting**

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, § 25501 as follows:

“Hazardous material” means any material that, because of its 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. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in 22 CCR § 662601.10 as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Transporters of hazardous waste in California are subject to many federal and state regulations. They must register with the California Department of Health Services (DHS) and ensure that vehicle and waste container operators have been trained in the proper handling of hazardous waste. Vehicles used for the transportation of hazardous waste must pass an annual inspection by the California Highway Patrol (CHP). Transporters must allow the CHP and/or the DHS to inspect its vehicles and must make certain required inspection records available to both agencies. The transport of hazardous materials that are not wastes is regulated by the U.S. Department of Transportation through national safety standards.

Other risks resulting from hazardous materials include the use of these materials in local industry, businesses, and agricultural production. The owner or operator of any business or entity that handles a hazardous material above threshold quantities is required, by state and federal laws, to submit a business plan to the local Certified Unified Program Agency (CUPA). The San Joaquin County Environmental Health Department is designated by the State Secretary for Environmental Protection as the CUPA for San Joaquin County in order to focus the management of specific environmental programs at the local government level. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits, inspection activities, and enforcement activities throughout San Joaquin County. This approach strives to reduce overlapping and sometimes conflicting requirements of different governmental agencies independently managing these programs. The county will refer large cases of hazardous materials contamination or violations to the Central Valley Regional Water Quality Control Board (RWQCB) (Region 5S) and the California Department of Toxic Substances Control (DTSC). It is not at all uncommon for other agencies, such as federal and state Occupational Safety and Health Administrations, to become involved when issues of hazardous materials arise.

Under Government Code Section 65962.5, both the DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. The Project site is not listed by the DTSC or SWRCB as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5 (Cortese List).

**4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant.**

**4.9.2.1 Construction**

During construction, hazardous materials such as fuels, solvents, and lubricants in relatively small quantities would be utilized. Transportation of fuels would be via approved fuel transport trucks that have been licensed specifically for this purpose. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The CHP is responsible for tanker truck inspections and permitting within the state. Because of existing requirements for the use, transport, and disposal of propane, diesel and gasoline, the potential for significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous fuels is **less than significant**.

Additionally, SEWD would comply with all federal, state, and local regulations regarding the storage of hazardous waste. All onsite hazardous waste handling and storage would occur within specially designed hazardous waste storage areas. Other hazardous materials use may include lubricants, fuels, and solvents in relatively small quantities. Because all storage and use of hazardous materials would be conducted consistent with applicable regulations, use of these materials would not create a significant hazard to the public. Impacts would be **less than significant**. No mitigation would be required.

**4.9.2.2 Operations**

The Project would intermittently use hazardous materials, including fuels, during operation. As discussed in Section 2.15 Project Maintenance Expectations, an excavator may occasionally be used to clear debris. In the event of a power outage at the site, there would be an emergency generator on standby to provide the required site power. It would be located outside, near the control building, and by the roadside for ease of re-fueling activities. The engine-generator would be housed in a sound attenuated and weather-protected enclosure to have lowest possible noise and exhaust emission per the local noise ordinance and San Joaquin Air Quality Management District air pollution requirements. Generator exhaust points would be oriented away from the Control Building to prevent exhaust from inundating the building. Ventilation intakes for the building would be situated to prevent this from happening. Impacts would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact with mitigation incorporated.**

On July 31, 2020, Bovee Environmental Management, Inc. (BEM) conducted sampling of building materials considered to be suspect asbestos containing materials for the structure at 23450 Route 26, Linden, CA 95236, which is to be demolished prior to Project construction. Twelve (12) samples were taken and three (3) indicated > 1% asbestos content. Two surfaces, the 9 x 9 vinyl floors tiles throughout the structure and the walls and ceilings in the bathroom/laundry room, were found to have asbestos-containing construction materials (ACCMs). These findings are documented in the BEM *Asbestos Inspection Report* (BEM, August 3, 2020.) which is included as Draft IS/MND Appendix G.

Friable and non-friable ACCMs containing more than 0.1% asbestos by weight are regulated by the California Department of Occupational Health and Safety (Cal OSHA). Cal OSHA enforces regulations pertaining to workers performing ACCM removal and workers in close proximity. Contractors who disturb more than 100 square feet or 160 lineal feet of ACCM must be registered by the contractor's state license board as an asbestos removal contractor. Contractors who disturb any amount of ACCM must ensure employee protection by providing accredited training, medical examinations, personal protective equipment, and a negative exposure assessment.

The Project would comply with federal, state, and local regulations concerning asbestos. Additionally, abatement contractors must also comply with the National Emissions Standards for Hazardous Air Pollutants Asbestos Regulations (40 Code of Federal Regulations [CFR] 61, Subpart M). Given there is approximately 1400-square feet of vinyl floor tile and 280-square feet of wall/ceiling surface to be demolished, demolition activities could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. This is a potentially significant impact. With implementation of mitigation measure **HAZ-1**, potential impacts due to demolition would be reduced to **less than significant with mitigation incorporated**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

No schools exist or are proposed within one-quarter mile of the Project site. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

ECORP conducted a search of the DTSC’s Hazardous Waste and Substance List (Cortese List), EnviroStor online database, and the SWRCB’s GeoTracker online database for the Project site and surrounding area. The Project site is not listed by the DTSC or SWRCB as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The nearest airport to the project is Wallom Field located over five miles northwest of the Project site. As such the Project would not result in a safety hazard for people residing or working in the Project Area. There would be **no impact**.



<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

San Joaquin County has drafted a set of Emergency Operations Plans (EOP), which includes standard operating procedures for hazards, including wildfires. The Proposed Project would not impair emergency response or evacuation plans identified in the EOP because it would not affect any service ratios or evacuation routes. **No impact** would occur.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project site is located in a Local Responsibility Area (LRA) and not in a Fire Hazard Severity Zone (FHSZ). The Project includes reconstruction and modernization of an existing water diversion facility and fish ladder and related infrastructure and would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. There would be **no impact**.

**4.9.3 Mitigation Measures**

**HAZ-1: Asbestos Removal Compliance**

The proposed Project shall comply with all federal, state, and local regulations concerning asbestos. Prior to structure demolition and consistent with the Project specifications, an asbestos removal contractor registered by the contractor’s state license board shall conduct removal of all suspected asbestos containing materials. During demolition, water support shall be used to prevent the release of visible air emissions.

**4.10 Hydrology and Water Quality**

This section describes the effects of the construction and operation of the Project on local and regional hydrology and water quality. The existing environmental and regulatory conditions specific to those issues are described and the potential impacts of the Project on hydrology and water quality addressed.

The Project impact on the loss of topsoil due to erosion related to site preparation, demolition, and construction activities is evaluated in Initial Study Section 4.7 Geology and Soils. The evaluation presented

below focuses on changes in stream hydraulics due to removal of the existing Bellota Concrete Dam and Flashboard Weir and installation of related facilities under the Proposed Project. This includes analysis of the potential for impacts related to water quality, groundwater, and erosion/siltation including downstream sediment transport, and flooding.

Information contained in this section is based in part on Project generated technical reports and assessments including: The *Draft 90% Hydraulic Modeling Summary Report, Bellota Weir Modifications Project Mormon Slough* (HDR Inc. & KSN Inc. 2022), and the *Draft (90%) Design Documentation Report, Bellota Weir Modifications Project, Mormon Slough, Calaveras River, CA.* (HDR Inc. & KSN Inc. February 7, 2022). These reports are included in initial study Appendix A.

#### **4.10.1 Environmental Setting**

##### **4.10.1.1 Background**

The existing Bellota Weir and intake facility on the Mormon Slough/Calaveras River is owned and operated by SEWD and provides water to urban and agricultural users. The Bellota Intake provides municipal and industrial flow year-round for the greater Stockton urban area, and supplies irrigation water to local farmers during the irrigation season (generally between mid-April and mid-October). The Old Calaveras Headworks (Calaveras Headworks), provides flow control and prevents flooding to downstream landowners on the Old Calaveras River by routing flood waters down the Mormon Slough. During most flow regimes, both the Bellota Weir and Calaveras Headworks are complete fish barriers to upstream migrating adult salmonids.

Continued operation of the Bellota Weir and diversion will be guided by the final Calaveras River Habitat Conservation Plan (CHCP; NOAA 2020). The CHCP provides operational criteria to support the biological goals of maintaining a viable population of threatened California Central Valley steelhead, *Oncorhynchus mykiss*, within the CHCP boundaries, and maintains adequate habitat conditions upstream of the Bellota Weir for fall-, late fall-, spring-, or winter-run Chinook salmon, *Oncorhynchus tshawytscha*, that may opportunistically migrate into the conservation area. While the CHCP intends to provide conditions that support Chinook salmon should they migrate into the conservation area, these salmon are not expected to maintain a viable population based both on pre-dam and current conditions. The CHCP enables SEWD to comply with the ESA, protecting and managing fishery resources and habitat while maintaining reliable water delivery to its constituents. Following NMFS approval on August 11, 2020, the District is authorized for a 50-year Incidental Take Permit (ITP #23264), for ESA-listed species under NMFS authority.

As discussed in Section 2 Project Description, upgrade or replacement of the Bellota Diversion, Weir, and Calaveras Headworks is a required compliance measure specified in the CHCP, as part of a seven-target fish passage objective. Specifically, the CHCP's target states:

*FP1 and AE1 Avoid migration delays and blockage, and entrainment within the Old Calaveras River Channel by constructing a non-entraining barrier at the Old Calaveras River Headworks Facility and at the downstream end of the channel near the confluence with the [Stockton Diverting Canal] within the first ten years of the ITP.*

FP2/AE3 *Construct and implement a combined crest gate/fishway/fish screen at the Bellota Diversion Facility to improve [salmonid] passage into/out of the 18-mile spawning and rearing reach between Bellota and New Hogan Dam and to prevent fish entrainment; target completion within first five years, but no later than 10 years of [issuance of] the ITP.*

Based on the CHCP targets summarized above and SEWD's water supply needs, the three primary hydrology related Project objectives are to:

- **Improve fish passage** by designing and constructing a new crest gate dam, fishway, and fish screens that include passage for *Oncorhynchus mykiss* and opportunistic migration for fall-, late fall-, spring-, and winter-run Chinook salmon.
- **Reduce fish entrainment** by constructing a new non-entraining fish barrier at the Old Calaveras River.
- **Provide more reliable water delivery** through weir and intake improvements.

#### **4.10.1.2 Site Conditions**

Physical considerations related to the existing facilities' hydrologic, hydraulic, and geotechnical conditions are presented below.

##### **Calaveras River**

The Project is located within the Calaveras watershed at the divergence of the Calaveras River Channel and Mormon Slough. Upstream of the Project site, the Calaveras River has one reach upstream of the New Hogan Reservoir and Dam and the other between the dam and Mormon Slough. The hydrology is dominated by rain events due to the low elevation of the upper watershed area. The basin tributary to the New Hogan Reservoir is 363 square miles. The Calaveras watershed between New Hogan Reservoir and the Project is an additional 107 square miles. The Calaveras River flows downstream of New Hogan Dam are metered by reservoir operation and influenced by diversion operations during irrigation season.

At the Project Site, the Calaveras River channel below Mormon Slough is controlled by the Calaveras Headworks. Compared to the channel upstream of Mormon Slough, the channel capacity is significantly reduced due to excessive vegetation caused by irregular flows.

##### **Existing Facilities**

Artificial structures located in the watershed and described below can become impediments to salmonids at various times due to flow conditions. Existing structures the proposed Project is most concerned with include the following:

- Bellota Weir, built in the late 1940s
- Bellota Intake for the Dr. Joe Waidhofer Water Treatment Plant built in 1978
- Old Calaveras Headworks, built in 1933

- Mormon Slough, built in 1971

### **Mormon Slough**

The Mormon Slough is a flood control facility completed in 1971 to divert flood flows from the Upper Calaveras River and reintroduce them closer to the City of Stockton. The project included widening the Mormon Slough, levee construction, and bank protection. The design discharge for the Mormon Slough is 12,500 cfs and is intended to accept the full flow of the Calaveras River for the 100-year event.

### **Bellota Weir**

The Bellota Weir is the largest check dam on the Calaveras River system. The weir is located on the Mormon Slough approximately 350 feet downstream of its confluence with the Old Calaveras River. The weir is an in-river concrete structure designed to accommodate installation of a flashboard dam; during irrigation season, the check dam crest with the flashboards installed is 8 feet above the channel invert (invert elevation of 121.44 feet North American Vertical Datum of 1988 [NAVD88]). During non-irrigation seasonal (flood season) periods of the year, shorter flashboards are installed 2 feet above the channel invert. Existing features of the Project are identified in the Figure 4.10-1.



**Figure 4.10-1. Prominent Features of the Bellota Weir Modifications Project Site**

The Bellota Weir includes two Denil fish ladders, installed in 1999 and 2001. During the irrigation season, only the downstream Denil fish ladder is in place, while during non-irrigation times, both Denil fish ladder sections are in place. Employees from CDFW and Fishery Foundation evaluated conditions at the ladders in 2007. The upper ladder is longer than the maximum recommended ladder length of 30 feet. The lower ladder has a 3 horizontal to 1 vertical (3H:1V) slope ratio, double the maximum recommended slope of 6H:1V. Finally, water does not flow through the lower ladder as intended but instead flows around the sides resulting in an inadequate water supply to the ladder that confuses fish looking for the ladder entrance (California Department of Water Resources [CDWR] 2007).

### **Bellota Pipeline Intake**

The Bellota Pipeline Intake is a gravity diversion constructed in 1978 on the south riverbank about 50 feet upstream of the Bellota Weir. Water diverted through the intake is conveyed to the Dr. Joe Waidhofer WTP (SEWD, HDR, and KSN 2020). The structure possesses bulkhead slots for installation of stop logs, a trash rack facility, two 14-foot-wide rectangular intake channels perpendicular to the river, two intakes with fish screens, a bypass pipeline, a sediment trap, and two slide gates to regulate flow.

### **Old Calaveras Headworks**

The Old Calaveras Headworks is located approximately 600 feet downstream from the Old Calaveras River, Mormon Slough confluence (Figure 4.10-1). The existing structure includes an earthen berm, four culverts with control gates, a trash rack, and concrete slope lining.

The earthen berm crest is 68 feet long and 10 feet wide. The 4-foot-wide, concrete culverts penetrate the berm and control flow to the Old Calaveras River. There is a 21-foot-wide trash rack on the upstream side of the berm protecting the culvert inlets, their concrete headwall, and wing walls. Flow is controlled with slide gates on the upstream side – two are operated manually and two are electrically actuated. The slide gates are operated between April and November to deliver water to downstream agricultural users, intermittently operated between November and April for groundwater recharge along the Old Calaveras River, and open during irrigation season to provide flow to downstream diverters (SEWD and FISHBIO 2019).

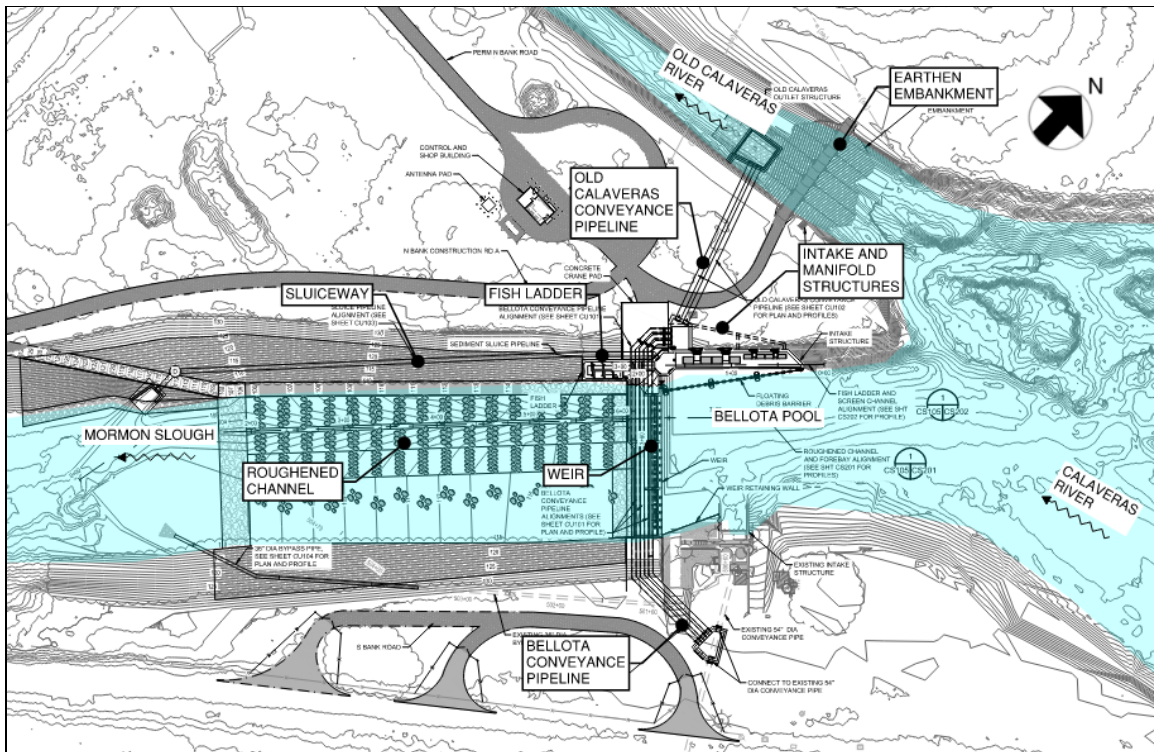
The headworks is a barrier to upstream adult fish migration and does not comply with juvenile downstream passage or fish protection guidelines provided by CDFW and NMFS.

In 2003, SEWD placed a small mesh net across the Old Calaveras River upstream of the Old Calaveras Headworks structure (CH2M 2003) to encourage juvenile fish to reside in the Bellota Pool and migrate upstream to suitable habitat or downstream to the Mormon Slough.

### **Proposed Facility**

As discussed above in Chapter 2.0 Project Description, the Proposed Project facility combines several operational and engineered elements to achieve its intended objectives: intake and weir replacement and improvements for effective fish passage, reduced fish entrainment, and water supply reliability. The proposed Project elements are briefly summarized below and illustrated in Figure 4.10-2:

- Construct a concrete weir with a series of weir gates designed to modulate forebay pool elevations based on operational needs. The proposed weir consists of a 150- foot-wide gated concrete weir with three gate openings. A concrete sill (elevation 115.5 feet) just downstream of the weir gates regulates the upstream water surface during normal operation. A low flow notch (invert elevation 114.3 feet) in the weir sill allows passage of low flows.
- Improve sediment conveyance by adding a vertical slide gate at the dam, operated to facilitate bypass and sluicing functions.
- Provide reliable fish passage using a roughened channel in combination with a vertical slot fishway to accommodate the full range of flows and river stages at the site. The fish passage ramp with a low flow channel extends from the weir sill approximately 360 feet downstream to where it terminates at an approximately 2.5- foot-deep pool that regulates the water surface during low flows, and then ties in with the existing channel invert. Roughness features (boulder weirs and rock clusters) along the fish passage ramp would provide sufficient depth during low flows and velocity refugia during high flows. Boulder weirs would be located at approximately 8- foot intervals along the low flow channel; the boulders would protrude from 1.5 to 2.5 feet from the low flow channel invert. Rock clusters would be placed at a similar interval along the southern portion of the fish passage ramp and protrude approximately 1.5 feet from the ramp invert.
- Provide reliable fish screening, both for the Bellota Intake and the Old Calaveras River, to prevent fish entrainment.
- Provide a non-entraining fish barrier to the Old Calaveras River.



**Figure 4.10-2: Overview of Proposed Project Elements**

### **4.10.1.3 River Hydrology**

#### **Calaveras River Hydrology**

This section describes the Calaveras River hydrology, including historic and ongoing flow regulation, flood recurrence, fish passage design flows, and Project-specific flow uncertainties.

Hydrology in the region was analyzed using desktop research, a U.S. Army Corps of Engineers (USACE)-installed gage downstream of the weir, and data provided by FEMA.

#### **Historic and Ongoing Flow Regulation**

Calaveras River/Mormon Slough flows are regulated by operation of New Hogan Dam about 17 miles upstream of the Mormon Slough and Old Calaveras River bifurcation. Discharge from the dam is altered throughout the year. Additionally, diversions throughout the reach between Bellota Weir and New Hogan Dam contribute to water withdrawals that must be considered when evaluating low flow conditions.

Flow release from New Hogan Dam is regulated by SEWD and/or the USACE; water rights are held by the U.S. Bureau of Reclamation (Reclamation) and contracted to SEWD and CCWD. Streamflow records are available using a USACE gage for both pre- and post-construction of the dam according to the CH2MHILL reports, but gage information prior to 1997 was not found online and multiple information requests to USACE yielded no results. There is no USGS gage nearby.

Releases to the river are lowest between October and December. Because much of the upper watershed is below elevation 4,000 feet (typical winter snowline), flow in the Calaveras River is heavily reliant on precipitation instead of snow melt unlike many other rivers nearby. The dam occasionally releases flood flows between January and March, but releases become more consistent during the irrigation season (Mid-April to Mid- October). These flows supply most of the irrigation demand for diversions between the dam and weir (CH2MHILL 2003). In a February 27, 2020 workshop, SEWD stated 20 to 100 cfs of flow is released downstream of Bellota Weir during the irrigation season (SEWD, KSN, and HDR 2020).

#### **Flood Recurrence**

Previously established flood events were used to determine water surface profiles at the Project location for alternative development, comparison, and measuring performance. Flood recurrence information for the Calaveras River and Mormon Slough at Bellota was obtained from two sources: the Flood Insurance Study for San Joaquin County conducted by the FEMA (2016), and the Lower San Joaquin River Feasibility Study conducted by the USACE (2017). FEMA flow values were used to inform the design of the proposed facility as it relates to potential impacts on the regulatory floodplain. The USACE study includes flood recurrence values that account for flow regulation by New Hogan Dam (regulated values) and have been used in flood risk management planning for the Stockton area. A combination of FEMA and USACE flow values for selected recurrence intervals are listed in Table 4.10-1. The FEMA 50-year and 100-year flows are similar due to the 12,500-cfs annual objective release flow target from New Hogan Dam (Table 4.10-1).

**Table 4.10-1. Flood Frequency and Magnitude of Calaveras River Flow at Mormon Slough at Bellota USACE Gage ID MRS**

<b>Recurrence Interval</b>	<b>Annual Exceedance Probability (%)</b>	<b>FEMA (2016) (cfs)</b>	<b>USACE, Regulated (2017) (cfs)</b>
1-year	99.9	-	-
2-year	50	-	3,520
5-year	20	-	9,520
10-year	10	12,500	9,530
25-year	4	-	10,640
50-year	2	12,500	12,500
100-year	1	12,690	12,500
500-year	0.2	27,100	16,000

### **Fish Passage Design Flows**

Selection of site-specific fish passage design flow criteria influences fish passage facility size, complexity, and anticipated performance. Guidelines presented by the NMFS and CDFW are based on exceedance analysis of mean daily flows during salmonid migration season but can be modified to suit site-specific requirements.

An exceedance analysis was conducted to determine annual and seasonal low and high fish passage design flows (HDR 2021). The analysis included mean daily streamflow data obtained from USACE Gage ID MRS (USACE 1997) for the period of 1997 to 2021. Seasonal periods analyzed included irrigation season and migration seasons for salmonid species covered by the CHCP. Per NMFS (2011) guidelines, low and high fish passage design flows were defined as the 95 percent and 5 percent exceedance values, respectively.

The maximum high flow value across all of the analyzed migration seasons was selected as a high fish passage design flow. The irrigation season high flow and the annual high flow were also considered during the design process to verify adequate fish passage across a range of flows for which hydraulics in the roughened channel may vary. Due to upstream flow regulation and diversion, the Calaveras River near the Bellota Weir periodically runs dry throughout the year, resulting in a calculated low fish passage design flow equal to 0 cfs. CDFW guidelines recommend that 3 cfs be used as an alternative low fish passage design flow in instances where the calculated low flow value is 0 cfs; however in a February 27, 2020 workshop, SEWD stated 20 to 100 cfs of flow is released downstream of Bellota Weir during the



irrigation season (SEWD, KSN, and HDR 2020). Additionally, 20 cfs was assessed as the likely lower threshold of discharge for passable hydraulics within the anticipated roughened channel concept, which relies on a low flow notch and rock weirs to concentrate flows to support a swim through condition. This configuration must be formed by rock elements large enough to remain stable under the high flow condition and the size of these elements constrains the physical dimensions of the low flow section. Based on this information, 20 cfs was selected as the low fish passage design flow.

Table 4.10-2 provides fish passage design flows included in hydraulic analysis.

<b>Season</b>	<b>Period</b>	<b>Low Fish Passage Design Flow (cfs)</b>	<b>High Fish Passage Design Flow (cfs)</b>
Annual	All year	3.0*	<b>545.3</b>
Irrigation	Mid-April to Mid-Oct	7.2	<b>150.9</b>
Fall Chinook Migration	Nov 1 to Dec 31	3.0*	420.6
Steelhead Migration	Nov 1 to March 31	3.0*	1,728.6
Late Fall Chinook Migration	Nov 1 to Feb 28	3.0*	<b>1,735.2</b>
Spring Chinook Migration	March 1 to May 31	3.0*	908.1
Winter Chinook Migration	Jan 1 to May 31	3.0*	1,710.0

Notes: Low and High Fish Passage Design Flow are defined as the 95 percent and 5 percent exceedance value for the specified migration season, respectively.

**Bold** values indicate the selected high fish passage design flows

\* Calculated value is 0 cfs. Alternate low design flow selected per California Department of Fish and Game 2002 (Table 4) and 2004 (Table IX-5).

### **Project-Specific Flow Uncertainties**

Numerous hydrologic inputs and withdrawals in the Project reach of the Calaveras River system create high flow variability during seasonal low flow conditions. The Fish Passage Barriers Assessment report shows there are 29 diversions between the weir and New Hogan Dam on the Calaveras River (CDWR 2007).

In addition, New Hogan Lake influences river flow through reservoir releases, which may devalue the exceedance analysis performed. High or low flows may result from reservoir releases rather than natural hydrology.

The following assumptions have been adopted as part of the design process:

- Mean daily flow statistics will be based on data available after 1997 (USACE 1997). Use of data recorded between December 10, 1997 and July 28, 2021 provides an 18-year period of record that gives an adequate representation of current and future operational conditions in the Project

reach. This information will be used herein to make reasonable assumptions for development of design criteria used for alternative assessment.

- The exceedance analysis is valid considering generalities and seasonality; it is influenced by New Hogan Dam releases and diversion of flow. Any adjustment in dam releases or diversion intakes will influence flow magnitudes at the Project site.

#### **4.10.1.4 Hydraulics**

A combination of one-dimensional (1D) and two-dimensional (2D) models were developed and used to inform the design process and confirm design compliance with regulatory requirements. Specifically, the objectives of the combined modeling efforts are to:

- Support regulatory permitting efforts associated with Project improvements
- Confirm that the range of hydraulic conditions anticipated after Project implementation will meet the fish passage, sediment passage, and water supply and flood resilience/stability criteria established during preliminary and final design
- Refine sediment continuity and particle mobility thresholds to inform sediment transport and sluicing targets
- Provide hydraulic conditions such as shear stress to verify the following:
  - Sizing and stability of channels
  - Boulder matrices of the roughened channel
  - Supporting rock filters for boulder structure and low flow channel
  - Potential for scour holes downstream of structure and forces on existing structures

Two distinct modeling efforts were completed to meet these objectives. A 1D Hydrologic Engineering Center - River Analysis System (HEC-RAS) model was used to verify compliance with the FEMA No-Rise condition. A 2D HEC-RAS model was used to inform the proposed weir structure and fish passage ramp design.

#### **One-Dimensional Model – No-Rise Analysis**

The Project is currently within a regulatory floodway designated by the FEMA National Flood Hazard Layer and Flood Insurance Rate Map (FIRM) (FIRM Panel 06077C0370F effective October 20, 2016). For new construction to occur, the Project design must demonstrate, through appropriate hydraulic analyses, that the proposed improvements will not result in any increase in base flood elevation for a 100-year event (1:100 chance of occurrence in a given year for the 100-year event).

#### **Effective FEMA Mapping**

The Calaveras River was first subject to detailed study for FEMA flood mapping purposes in 1994 (FEMA 2002). Per the FEMA Flood Insurance Study (FIS), a restudy was completed in 1998 (San Joaquin Area

Flood Control Agency 1998) for both the Calaveras River and Mormon Slough, however, the restudy limits did not extend upstream to the Project. For the Calaveras River, the restudy extended to Solari Ranch Road. For the Mormon Slough, the restudy extended to Jack Tone Road. Both locations are miles downstream of the Project and do not serve as the basis for mapped conditions near the Project.

Near the Project, the Calaveras River includes a stream centerline, lettered cross sections, mapped base flood elevations, designated floodway, and areas of floodway fringe. Figure 4.10-3 provides a portion of the October 20, 2016 FIRM map. In the figure, an area of floodway is mapped in the upstream most 1,600 feet of the Mormon Slough, starting at the channel bifurcation and ending at the Bellota Road Bridge. While mapped as a floodway, there are no lettered cross sections, base flood elevations, or centerline in this reach. This designated floodway transitions to a FEMA Zone A floodplain downstream. A detailed analysis likely was not used to map the Mormon Slough reach immediately downstream.

### **FEMA Flood Insurance Study**

The FEMA FIS report (2016) details information on the existence, severity, and mapping basis of flood hazards within the County of San Joaquin for use under the National Flood Insurance Program. The FIS was last revised in 2016 as FIS Number 06077CV001B. The FIS provides summaries of included flood sources, associated discharges with these flood sources, floodway data, and flood profiles, among other information. The Calaveras River is included in these summaries, but with some inconsistencies. The flood source table lists the Calaveras River, but places the upstream limit at Solari Ranch Road (approximately 13 miles downstream of the Old Calaveras Headworks), instead of perhaps New Hogan Dam or the Stanislaus County line. The discharge summary table provides the most upstream discharge location at Jack Tone Road, with a discharge of 1,450 cfs and a contributing area of 14.4 miles. This discharge matches the restudy hydraulics from 1998 (San Joaquin Area Flood Control Agency 1998).

By contrast, the floodway data table, which details floodway widths and surcharge elevations at each lettered cross section, includes data for sections to the upstream limit at the Stanislaus County line. Additionally, the FIS includes flood elevation profiles for the 10-, 100-, and 500-year events from the county line to the Calaveras Headworks (labeled Diversion Structure). The 50-year profile overlaps the 10-year due to shared discharge values. No profile overtops the Diversion Structure and each is considerably reduced in depth downstream of the structure. The 50-year profile begins at the Calaveras Headworks and extends downstream.

The following conclusions were made from the FIS study:

- The 100-year event from the Calaveras River is diverted entirely to the Mormon Slough.
- No discharge passes the Calaveras Headworks. The Calaveras River discharge at Jack Tone Road is based on tributary areas downstream of the Calaveras Headworks.
- The original detailed study extended to the Stanislaus County line but was not revisited during the 1998 restudy.



The Mormon Slough is also listed as a flood source and included in the various summary tables. The Summary Discharge table indicates that Mormon Slough starts at Bellota and conveys diverted flow from the Calaveras River (FEMA 2016). The listed drainage area is 480 square miles. However, the Floodway Data table only includes the Mormon Channel, a downstream facility, but not the Mormon Slough. No flood profiles are included for the Mormon Channel, which is typical for a FEMA Zone A.

In the absence of additional information, the following uncertainties exist:

- The basis of the designated floodway in the upper reach of the Mormon Channel. Potentially, the floodway was arbitrarily mapped. No effective elevation data is present from which to compare a proposed condition (e.g., surcharge values).
- The influence of Mormon Channel conveyance on the flood profiles for the Calaveras River upstream of the Calaveras Headworks. In this area, the flood profiles are flat, which is anticipated for slack or ponded water. However, the backwater elevation should be based on the normal depth at the Mormon Channel entrance.

#### **FEMA Data Request and Effective Model**

A 1D USACE HEC-RAS model was likely developed to support the original mapping effort and would be classified as the Effective model. As a matter of general practice, the Effective model should be used as the basis for determining compliance with FEMA requirements and is typically obtained from FEMA or the local community floodplain administrator. However, through extensive effort and communication with FEMA and representatives from local flood control authorities, the Effective modeling has not been located. The FEMA Engineering Library has no record of this model, nor does the community floodplain administrator for San Joaquin County.

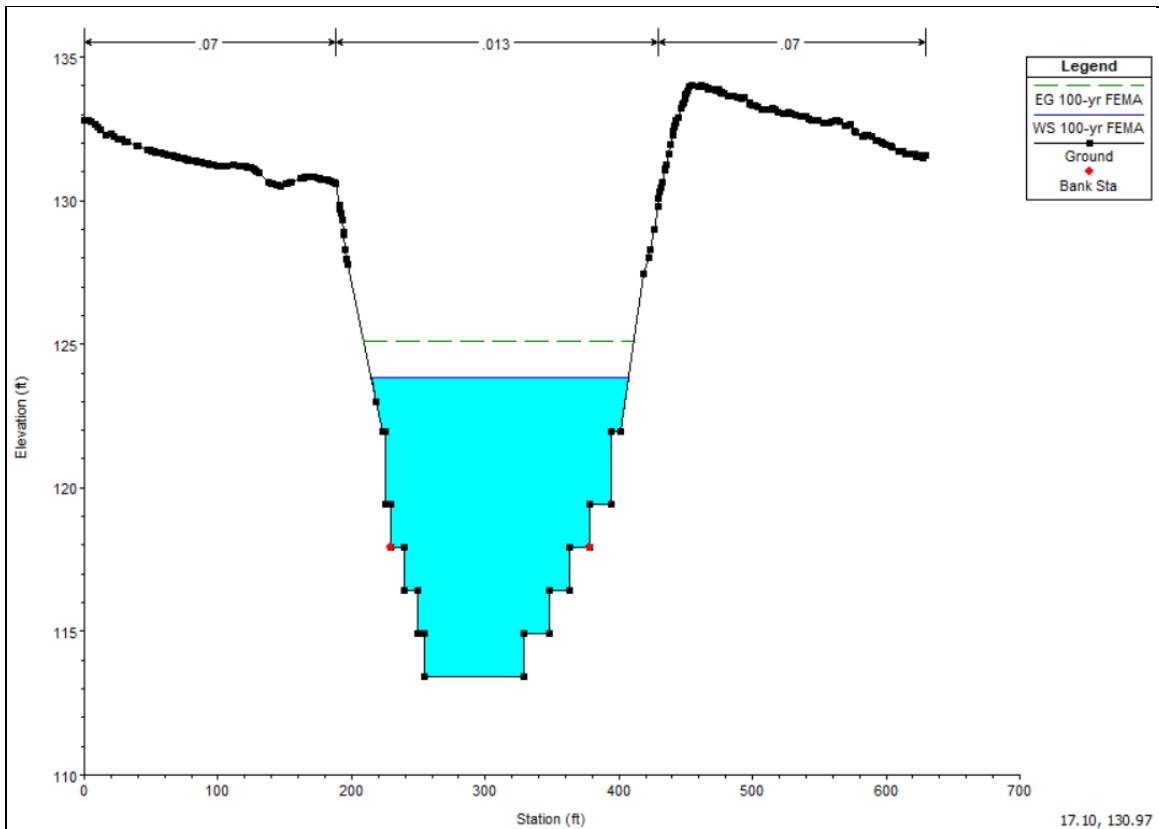
#### **No-Rise Approach**

As discussed above, for new construction to occur in the floodway, the Project must demonstrate, through appropriate hydraulic analyses, that the proposed floodway encroachment will not result in an increase in base flood elevation for a 100-year event (1:100 chance of occurrence in a given year for the 100-year event). In the absence of the Effective model, FEMA guidance, as confirmed in correspondence with San Joaquin County (Shayan Rehman, Senior Engineer, personal communications, 2021), stipulates new existing conditions modeling will serve as the basis to evaluate a No-Rise condition. A No-Rise condition will be accepted without the Effective model if the proposed flood elevation is below the existing conditions flood elevation and if the proposed flood profile is equal to or less than the current Effective base flood elevations.

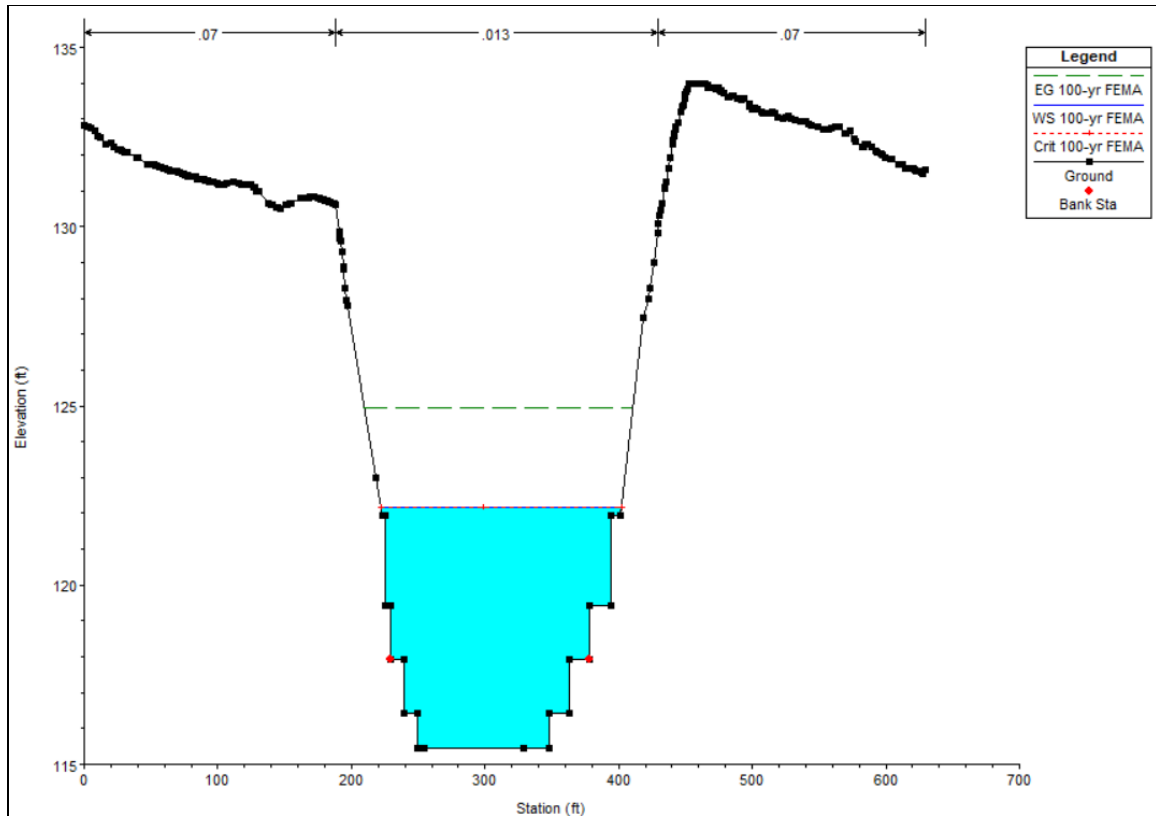
#### **Existing Condition Model**

A 1D HEC-RAS model was developed for existing conditions to serve as a benchmark to evaluate the No-Rise condition for the proposed facility. The existing condition represented in the 1D model was the existing weir structure with flashboards implemented to raise the weir invert by 2 feet, from 113.44 feet to 115.44 feet. For further discussion of methodologies related to Terrain and Cross Section Development, refer to Appendix A2).

For 1D modeling purposes, the Bellota weir was represented within the existing conditions terrain, rather than as an inline structure element. In HEC-RAS, flow over an inline structure element can be modeled using a weir flow equation. However, the depth of flow over the weir for the 100-year flow event considered in this study is large (approximately 6 feet) and flow is more likely to resemble flow through a channel than over a weir. Four cross-sections were used to represent the existing weir: two cross-sections each to represent the upstream and downstream extents of the weir (invert elevation = 113.44 feet; Figure 4.10-4) and the flashboards (invert elevation = 115.44 feet; Figure 4.10-5), respectively. Cross-section geometry was modified as necessary based as-built drawings (R.B. Welty and Associates 1967).



**Figure 4.10-4. HEC-RAS Cross-Section for Existing Weir (Invert Elevation 113.44 feet)**



**Figure 4.10-5. HEC-RAS Cross-Section for Existing Weir With Flashboards Implemented (Invert Elevation = 115.44 feet)**

## 4.10.2 Regulatory Setting

### 4.10.2.1 Federal

#### Clean Water Act

The federal CWA was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters. The CWA also directs states to establish water quality standards for all "Waters of the United States" and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from nonpoint sources.

The USEPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program, to the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards.

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface Waters of the United States based on the water body's designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical

standards cannot be established or where they are needed to supplement numeric standards. Water quality standards applicable to the Proposed Project are listed in the Basin Plan (CVRWQCB 2018).

### **National Pollutant Discharge Elimination System**

The goal of the NPDES diffuse source regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of best management practices (BMPs). The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse source dischargers. As defined in the federal regulations, nonpoint sources are generally exempt from federal NPDES permit program requirements. Nonpoint pollution sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Urban stormwater runoff and construction site runoff, however, are diffuse-sources regulated under the NPDES permit program because they discharge to receiving waters at discrete locations in a confined conveyance system. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

Section 307 of the CWA describes the factors that the USEPA must consider in setting effluent limits for priority pollutants. For diffuse-source discharges (e.g., municipal stormwater and construction runoff), the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of (1) characterizing receiving water quality, (2) identifying harmful constituents, (3) targeting potential sources of pollutants, and (4) implementing a Comprehensive Stormwater Management Program. State implementation of the NPDES program as it relates to the proposed Project is discussed below under State and Regional regulations.

### **Executive Order 11988 (Flood Plain Management)**

EO 11988 (Flood Plain Management) links the need to protect lives and property with the need to restore and preserve natural and beneficial flood plain values. Specifically, federal agencies are directed to avoid conducting, allowing, or supporting actions on the base flood plain unless the agency finds that the base flood plain is the only practicable alternative location.

### **Floodplain Development**

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies and approved agency studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps, which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas (SFHAs), including the 100-year flood zone. FEMA allows nonresidential development in SFHAs; however, construction activities are restricted depending upon the potential for flooding within each area. Federal regulations governing development in a SFHA are set forth in Title 44, Part 60 of the CFR, which enables FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard education standards for construction and development in 100-year flood plains.



### **National Toxics Rule and California Toxics Rule**

In 1992, pursuant to the CWA, USEPA promulgated the National Toxics Rule (NTR) criteria to establish numeric criteria for priority toxic pollutants for California. The NTR established water quality standards for 42 priority pollutants not covered at that time under California's statewide water quality regulations. In May 2000, USEPA issued the California Toxics Rule (CTR), which promulgated numeric criteria for additional priority pollutants. The CTR documentation (Volume 65, pages 31682–31719 of the Federal Register [65 FR 31682–31719], May 18, 2000, along with amendments in February 2001) "carried forward" the previously promulgated criteria of the NTR, thereby providing a single document listing of water quality criteria for 126 priority pollutants for California surface waters.

### **Federal Antidegradation Policy**

The federal Antidegradation Policy is designed to protect existing uses and the level of water quality necessary to protect existing uses and provide protection for higher quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions (40 CFR 131.12):

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
2. Where the quality of waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the state finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.
3. Where high quality waters constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

#### **4.10.2.2 State**

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the act, California must adopt water quality policies, plans, and objectives (synonymous with the term "criteria" used by USEPA) that ensure beneficial uses of state waters are reasonably protected. The Porter-Cologne Water Quality Control Act requires the nine RWQCBs to adopt water quality control plans that define the beneficial uses of the water bodies throughout the region to be protected, the water quality objectives necessary for reasonable protection of the beneficial uses, and a program of implementation for achieving the water quality objectives. In addition, the act authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements for discharges of waste to

surface waters and land. Mormon Slough and the Old Calaveras River at the Project site is within the jurisdiction of the CVRWQCB.

### **Water Quality Control Plan for the Sacramento River and San Joaquin River Basins**

The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) (RWQCB 2018) defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the Sacramento River and San Joaquin River basins. The Basin Plan contains specific numeric water quality objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, temperature, turbidity, and trace elements, as well as numerous narrative water quality objectives, which are applicable to certain water bodies or portions of water bodies.

### **State Water Resources Control Board Resolution No. 68-16: Statement of Policy with Respect to Maintaining High Quality Waters in California**

The goal of SWRCB Resolution No. 68-16 (“Statement of Policy with Respect to Maintaining High Quality Waters in California”) is to maintain high quality waters where they exist in the state. Resolution No. 68-16 states, in part:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The SWRCB has interpreted Resolution No. 68-16 to incorporate and be consistent with the federal antidegradation policy (CVRWQCB 2018).

### **Statewide National Pollutant Discharge Elimination System Storm Water Permit for General Construction Activity**

The SWRCB has issued a general NPDES permit for stormwater discharges associated with construction activity of greater than one acre in size—Order 2009-0009-DWQ, as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ (General Construction Permit). The General Construction Permit requires the preparation of a SWPPP that identifies and describes the best management practices (BMPs) to be implemented at construction sites to control pollution from stormwater runoff. Coverage is obtained by submitting a Notice of Intent (NOI), risk assessment, post-construction calculations, a site map, the

SWPPP, and a signed certification statement by the legally responsible person to the SWRCB prior to construction.

### **California Antidegradation Policy**

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state, not just surface waters. The policy requires that, with limited exceptions, whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource.

### **General Order for Dewatering and Other Low-Threat Discharges to Surface Waters (CVRWQCB Order R5-2013-0074, As Amended).**

The Central Valley Regional Water Quality Control Board (CVRWQCB) has adopted a General Order for short-term discharges of small volumes of wastewater from certain construction-related activities. Discharges may be covered provided they are either (1) 4 months or less in duration or (2) the average dry weather discharge does not exceed 0.25 mgd. Construction dewatering and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the order. To receive coverage, the discharger must submit an NOI to the RWQCB and describe the activity with sufficient detail to demonstrate that discharge would comply with the discharge prohibitions, effluent limitations, and receiving water limitations outlined in the order. In no case shall the discharge impair beneficial uses or violate water quality standards or cause a possible nuisance condition. As part of obtaining the NOI, dischargers must sample and analyze the discharge for specific priority pollutants, and dewatering discharge concentrations must meet the Screening Levels in the General Order for the discharge to be covered under the order.

### **Central Valley Flood Protection Board**

Any project encroaching into rivers, waterways, and floodways within and adjacent to federal- and state-authorized flood control projects or within designated floodways must receive approval from the CVFPB. Under Water Code §§ 8534, 8608, and 8710–8723, the CVFPB is required to enforce, within its jurisdiction, on behalf of the State of California, appropriate standards for the construction, maintenance, and protection of adopted flood control plans that will best protect the public from floods. The area of CVFPB jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin rivers and Tulare and Buena Vista basins.

### **California Sustainable Groundwater Act**

The Sustainable Groundwater Management Act (SGMA) is a package of three bills (AB 1739, Senate Bill (SB) 1168, and SB 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. The SGMA establishes minimum standards for sustainable groundwater management, roles and responsibilities for local agencies that manage groundwater resources, as well as

priorities and timelines to achieve sustainable groundwater management within 20 years of adoption of a Groundwater Sustainability Plan.

**4.10.2.3 Local San Joaquin County**

**Northeastern San Joaquin County Groundwater Banking Authority (GBA)**

The GBA was formed in 2001 to develop locally supported conjunctive use projects that improve water supply reliability in San Joaquin County. The member agencies of the GBA include the City of Stockton, California Water Service Company, City of Lodi, Woodbridge Irrigation District, North San Joaquin Water Conservation District, Central San Joaquin Water Conservation District, Stockton East Water District, Central Delta Water Agency, South Delta Water Agency, San Joaquin County Flood Control and Water Conservation District, and the San Joaquin Farm Bureau Federation. The GBA group is responsible for the Eastern San Joaquin Integrated Regional Water Management Plan (IRWMP).

**Eastern San Joaquin Integrated Regional Water Management Plan (IRWMP)**

The purpose of the IRWMP is to define and integrate key water management strategies to establish the protocols and courses of action for implementation of the Eastern San Joaquin Integrated Conjunctive Use Program. The IRWMP planning process began in late 2004 following the completion of the Eastern San Joaquin Groundwater Management Plan. The Plan was envisioned to take the concept of managing and restoring the underlying Basin from an idea to reality. The IRWMP was adopted by the GBA on July 15, 2007 (GBA, 2007).

**4.10.3 Hydrology and Water Quality (X) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

In accordance with NPDES regulations, the State of California requires that any construction activity affecting more than one acre obtain a General Construction Activity Stormwater Permit (General Permit) to minimize the potential effects of construction runoff on receiving water quality. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ.

General Permit applicants are required to submit Permit Registration Documents for the Project to the appropriate regional board, which include an NOI, risk assessment, site map, signed certification statement, an annual fee, and a SWPPP. The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control

standards, identification of responsible parties, and a detailed construction timeline. The SWPPP must also include implementation of BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges.

Examples of typical construction BMPs included in SWPPPs include, but are not limited to, using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the drainage system or receiving waters. SWPPP BMPs are recognized as effective methods to prevent or minimize the potential releases of pollutants into drainages, surface water, or groundwater. Strict SWPPP compliance, coupled with the use of appropriate BMPs, would reduce potential surface water quality impacts during construction activities.

In addition to SWPPP requirements, construction phasing and sequencing coupled with proposed dewatering activities would provide further water quality protections. For example, construction sequencing requirements outlined in Project Description Section 2.13.2 would ensure appropriate river diversions and isolation of “in water” work areas. Diversions would include use of longitudinal dikes, temporary sheet pile walls, and dewatering sumps to control river seepage into construction work areas. As part of typical permit requirements, the contractor would be required to prepare a dewatering plan for agency (NMFS and CDFW) review and approval prior to implementation. Given applicable SWPPP and construction phasing and sequencing requirements, the Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. This would be a **less than significant impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project would not require the use of groundwater. Further, as shown in Tables 2-5 and 2-6, Project operation would maintain the same irrigation season (WSEL 121.44 NAVD88) and non-irrigation season (WSE 115.44 feet NAVD88) water surface elevations as existing operations resulting in no change to historic groundwater infiltration opportunities. As such, the Project is unlikely to reduce groundwater recharge and supplies in areas hydrologically connected to the Calaveras River and/or Mormon Slough. Thus, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) 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 that would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant.**

- i) Result in substantial erosion or siltation on- or offsite?

The *Draft 90% Hydraulic Modeling Summary Report, Bellota Weir Modifications Project Mormon Slough, Calaveras River* (HDR Inc. & KSN Inc. 2022) (Appendix A2) includes an analysis of the risk for bank erosion, long-term degradation and/or scour resulting from the Project. As part of this analysis, contraction, impingement, and other applicable scour mechanisms were evaluated at potentially vulnerable Project locations. Long- term and local scour were assessed primarily by, but not limited to, the following guidelines:

- U.S. Department of Agriculture Technical Supplement 14B, Scour Calculations (2007).
- Federal Highway Administration (FHWA) Hydraulic Engineering Circular 18, Evaluating Scour at Bridges (2012).
- FHWA Hydraulic Engineering Circular 23, Bridge Scour and Stream Instability Countermeasures (2009).

For a full discussion of these issues, analysis methods and related modeling, refer to the Hydraulic Modeling Summary Report contained in Appendix A2.

#### **4.10.3.1 Erosion/Scour**

As discussed in the Hydraulic Modeling Summary Report, potential scour concerns were identified for the following Project components:

- The Concrete Fish Screen Intake Wall
- The Roughened Channel Toe Down (located at the downstream end of the Roughened Channel)
- The Sediment Sluice and Old Calaveras Outlet Structures

The Project design incorporates erosion and scour countermeasure recommendations based on the Hydraulic Modeling Summary Report conclusions. The recommended countermeasures include ensuring all pile foundations and sheet piling extend to depths below modeled scour depths; employing the use of a riprap apron at the upstream end of the concrete fish screen intake wall; ensuring rock is extended to the depth of anticipated scour at the downstream end of the roughened channel to prevent undermining; and ensuring appropriate riprap apron design for energy dissipation at the Old Calaveras and Sediment Sluice Pipeline outfalls. Project construction plans include the recommended countermeasures thereby protecting the Project from potential scour impacts.

#### **4.10.3.2 Siltation**

Sediment and debris removal efforts would occasionally be necessary at the proposed Bellota Intake. Similar to the conditions at the existing facility, slow water velocities upstream of the proposed Bellota Wier would continue to result in fallout of fine sediments which would accumulate in front of the proposed dam and intake.

To address expected sediment accumulation/transport, sediment sluicing is incorporated at three different locations in the Project, with each location designed to discharge to the same 54-inch-diameter, 550-foot-long concrete sluiceway that discharges the consolidated sediment slurries to Mormon Slough, downstream of the roughened channel. The sediment sluicing locations are the forebay (Bellota pool immediately upstream of weir), the screenings channel, and the distribution structure. Sluicing of the forebay would be initiated by opening a 60-inch by 60-inch sluice gate at the west end of the intake structure that discharges to the screen channel exit as well as opening a 54-inch-diameter gate within the intake structure that discharges directly to the sluice pipeline. The screen channel would be sloped to a low point at the west end of the intake structure (in-line with the 54-inch-diameter sluiceway) for sediment accumulation and discharge. Finally, the distribution structure would be equipped with a 12-inch-diameter gate for discharge to a 12-inch sluice pipeline that will be connected to the 54-inch concrete sluice pipeline. Sediment sluicing would occur as needed to maintain downstream sediment transport and avoid undesirable accumulation.

With implementation of recommended scour counter measures called for in the Hydraulic Modeling Summary Report and due to the sediment sluicing functions included in the proposed Project design, the Project would not result in substantial erosion or siltation on- or offsite and related impacts are **less than significant**.

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

The Project would introduce limited impervious surfaces leading to increased runoff. For example, the utility building and crane pad would contribute 440 square feet and 2,500 square feet of impervious area, respectively. The structure on the north bank including the fish ladder and intake would contribute about 7,000 square feet of impervious area for a total of approximately 9,940 square feet. The tops of exposed concrete walls would provide only minimal contributing runoff and onsite roads would be surfaced with aggregate to allow infiltration and therefore would not contribute to runoff.

While the Project would introduce minimal amounts of impervious surface, it also includes demolition of the following existing impervious surfaces which contribute to runoff under existing conditions:

- Demolition of the existing concrete apron located on the north bank of Mormon Slough (approximately 5,000 square feet). This area is used under current operations to facilitate maintenance crew access during flashboard weir installation and removal and this would no longer be needed.
- Demolition of an existing approximately 2,200 square foot dilapidated onsite residence and one small outbuilding.

Given the minimal increase (approximately 9,940 square feet) of impervious surfaces introduced by the Project coupled with the reduction resulting from demolition activities (7,200 square feet), the net Project change of adding approximately 2,740 square feet of impervious surface to an existing 15.5-acre Project site would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite. Related impacts are **less than significant**.

- iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The Project site is mostly undeveloped and does not currently include an engineered stormwater collection system. Stormwater falling on the Project site sheet flows to low lying areas and drains to either of Mormon Slough or the Old Calaveras River. As discussed in response ii) above, the Project would introduce very limited impervious surfaces in comparison to the 15.5-acre Project site and therefore would not contribute to a significant increase in stormwater runoff. Furthermore, the Project doesn't include large parking lots or other new pavement-serving vehicles which is a typical source of polluted (oils, grease, hydrocarbons) stormwater runoff. Thus, the Project would not 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. Related impacts would be **less than significant**.

- iv) Impede or redirect flood flows?

Appendix A2 includes an analysis of Project impacts on river hydrology and hydraulics during flood events. The purpose of the Summary Report was to inform the design process and confirm design compliance with regulatory requirements. Specifically, the objectives of the combined modeling efforts were to:



- Support regulatory permitting efforts associated with Project improvements
- Confirm that the range of hydraulic conditions anticipated after Project implementation would meet the fish passage, sediment passage, and water supply and flood resilience/stability criteria established during preliminary and final design
- Refine sediment continuity and particle mobility thresholds to inform sediment transport and sluicing targets
- Provide hydraulic conditions such as shear stress to verify the following:
  - Sizing and stability of channels
  - Boulder matrices of the roughened channel
  - Supporting rock filters for boulder structure and low flow channel
  - Potential for scour holes downstream of structure and forces on existing structures

Two distinct modeling efforts were completed to meet these objectives. A 1D Hydrologic Engineering Center - River Analysis System (HEC-RAS) model was used to verify compliance with the FEMA No-Rise condition and a 2D HEC-RAS model was used to inform the proposed weir structure and fish passage ramp design.

As discussed in Section 4.10.1.4 Hydraulics above, the 1D HEC-RAS modeling effort first involved creation of an existing conditions 1D model. The proposed condition model was then developed using the existing conditions model, with modified geometry and Manning's roughness coefficients in cross-sections at the weir and along the proposed roughened channel (cross-section 2375 through 1474) as follows:

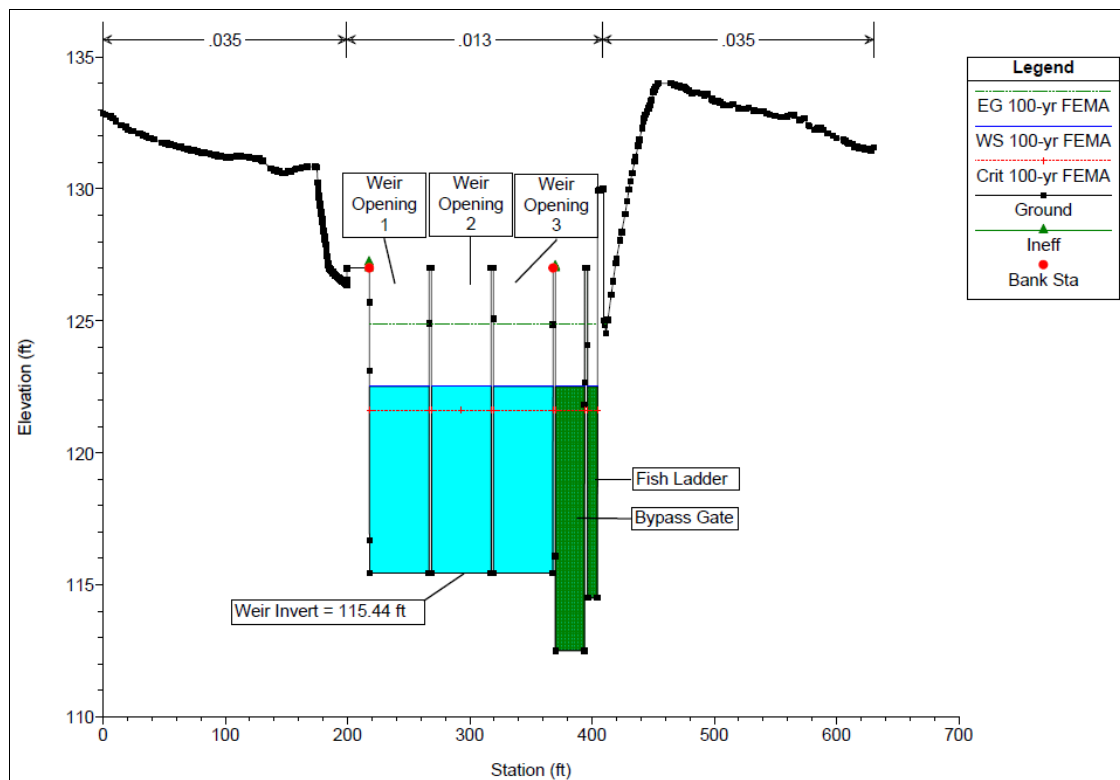
- Cross-section geometry was updated to reflect the proposed weir and roughened channel dimensions. Assumes all Obermeyer weir gates are at elevation 115.5 feet NAVD88.
- Ineffective flow areas were updated to reflect areas obstructed by the new weir structure, including the fish ladder, the exit for which is likely to be closed under high flow conditions.
- Manning's  $n$  values were updated to represent the proposed concrete weir and fish passage ramp, riprap-lined slopes, and weir access road.

Refer to the Section 4.1.5 of the Hydraulic Modeling Summary Report (Appendix A2) for additional details related to proposed condition model inputs and assumptions. Figures 4.10-6 through 4.10-8 show representative cross-sections for the proposed weir and roughened channel.

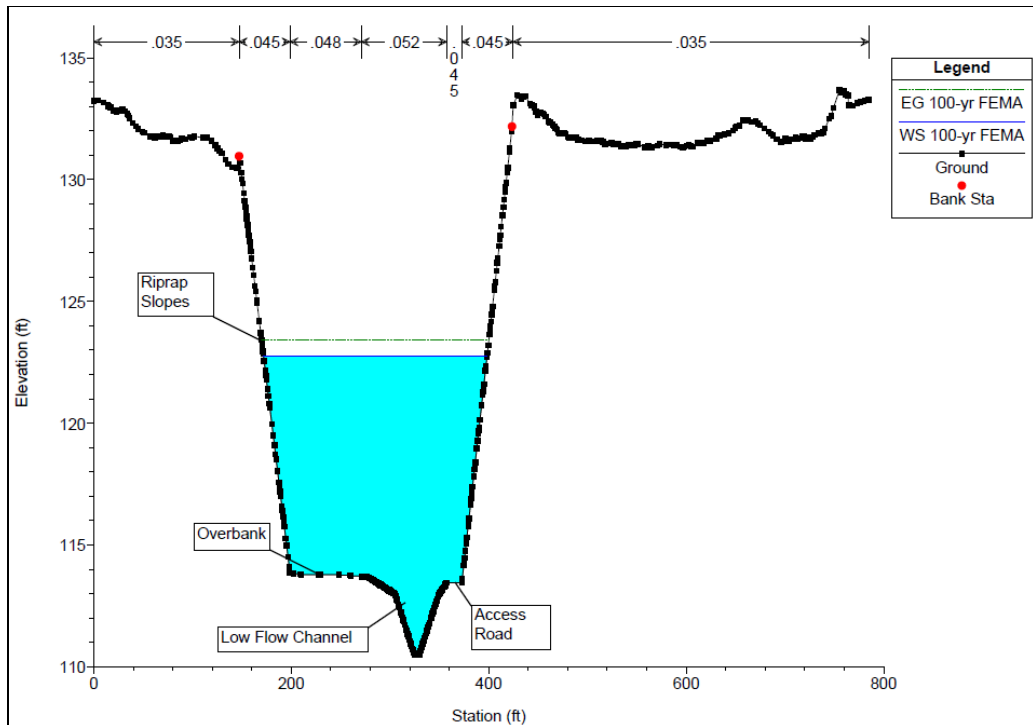
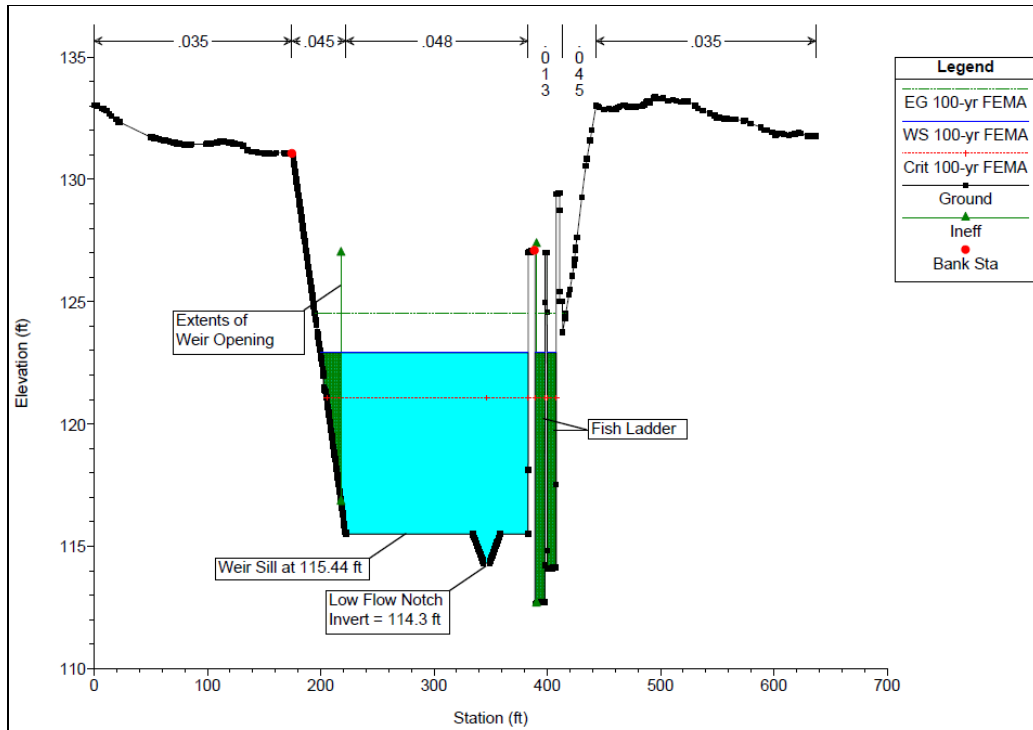
Based on model output, a No-Rise condition is achieved along most of the study reach, except for some localized increases observed around the weir and roughened fish passage ramp. Localized increases were confined to an approximately 590-foot reach extending from the proposed weir (HEC-RAS reach station 2171) to the downstream limit of the proposed fish passage ramp (HEC-RAS reach station 1582). Increases in the water surface along the roughened fish passage ramp were generally between 0.01 – 0.3 foot. Larger increases ranging from approximately 0.5 - 1.1 feet were observed through the weir structure and

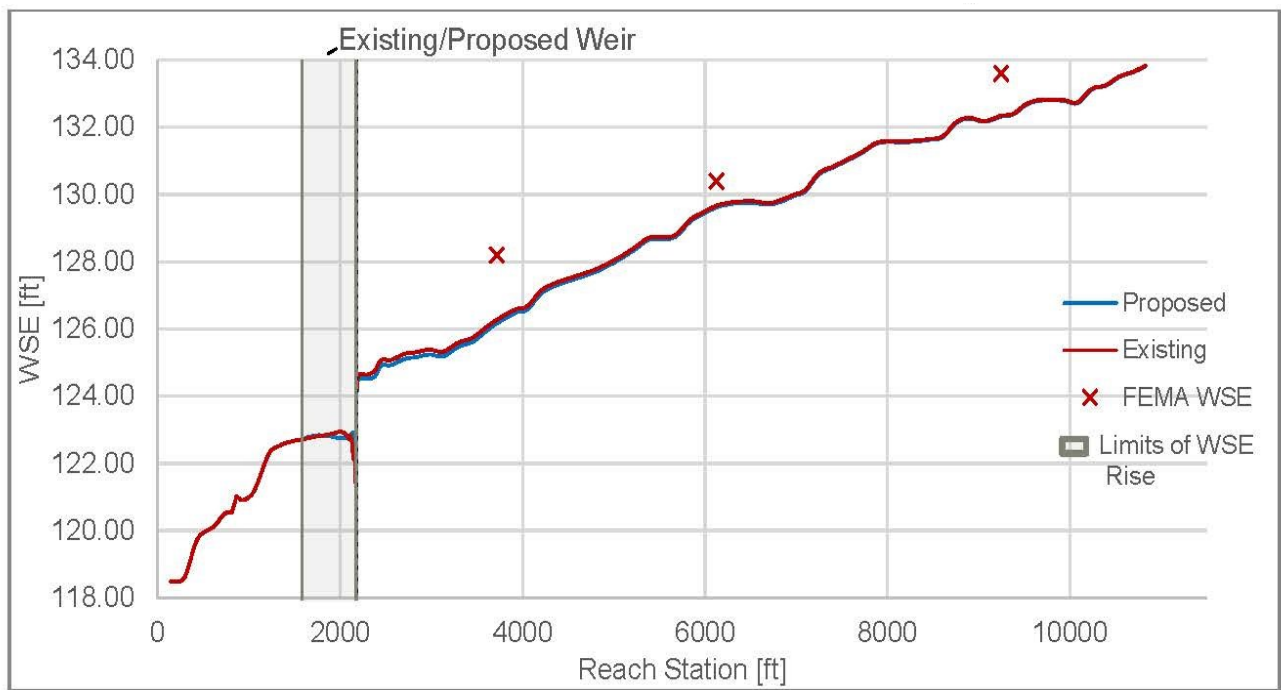
within the upstream 20 feet of the fish passage ramp. The larger increases through the weir are likely due to proposed weir extending approximately 20 feet downstream of the end of the existing weir, resulting in overlap between the dammed water surface upstream of the proposed weir sill and the existing weir tailwater. Localized increases downstream of the weir are a result of the increased tailwater elevation caused by the proposed roughened channel. At all other cross-sections, the proposed water surface is lower than, or equal to the existing water surface profile. Additionally, both the existing and proposed water surface profiles are below the FEMA effective water surface within the portion of the study reach for which FEMA effective base flood elevations were available (Figure 4.10-9). WSEs from cross-sections at and surrounding the existing and proposed structures are provided in Figure 4.10-10 and Table 4.10-3.

Results from the 1D analyses indicate that the water surface for the FEMA 100-year flood event are lower than the FEMA effective base flood elevations. A No-Rise condition is generally achieved along the entire study reach, except for a few localized increases in WSE at the proposed weir and along the proposed fish passage ramp. The water surface was not affected downstream of the proposed channel modifications, and the water surface upstream of the proposed weir was lower under proposed conditions than under existing conditions. Within the reach that experienced an increase in the 100-year water surface under proposed conditions, the proposed WSE was contained within the channel and did not exceed the vertical extents of the riprap lining. Furthermore, there are no insurable structures at these locations and localized increases in water surface are unlikely to pose increased flooding risk along the study reach. Thus, the Project would not impede or redirect flood flows and related impacts are **less than significant**. A Conditional Letter of Map Revision may be required if the San Joaquin County Floodplain Administrator considers the localized increases in WSE within the Project Area to be unacceptable.

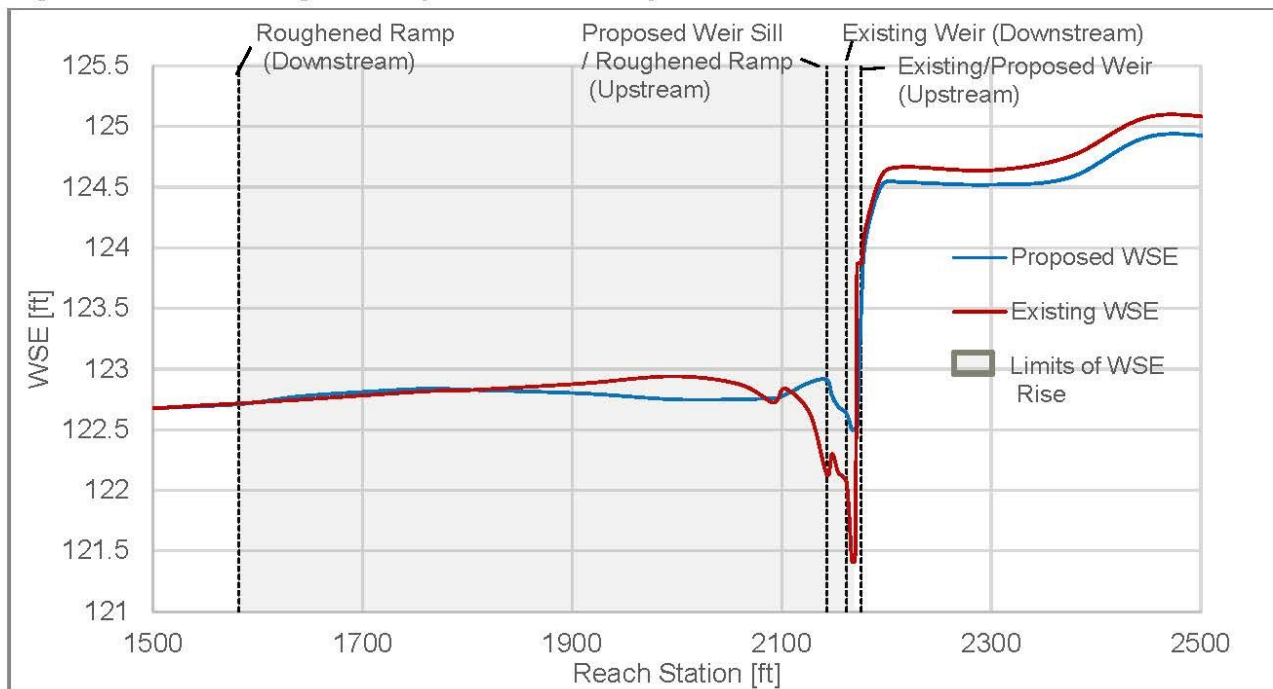


**Figure 4.10-6 HEC-RAS Cross-Section for Proposed Weir Opening (4-4)**





**Figure 4.10-9. Existing and Proposed FEMA 100-year Water Surface Profiles and FEMA Effective Water Surface Elevation at FEMA Cross-Sections within Study Reach**



**Figure 4.10-10. Existing and Proposed FEMA 100-year Water Surface Profiles near the Weir**

Cross-Section Location	Feet			
	Existing Station	Existing WSE	Proposed WSE	WSE Difference (Proposed - Existing)
	2,550	125.07	124.92	-0.15
	2,452	125.08	124.92	-0.16
Upstream Limit of Proposed Channel Modifications	2,375	124.75	124.58	-0.17
	2,299	124.64	124.52	-0.12
	2,217	124.67	124.54	-0.13
	2,196	124.61	124.52	-0.09
	2,180	124.16	124.06	-0.10
Existing Weir - Upstream; Proposed Weir - Upstream	2,176	123.87	123.51	-0.36
	2,172	123.87	122.52	-1.35
	2,171	122.30	122.51	0.21
	2,170.6	122.17	122.51	0.34
	2,170	121.42	122.51	1.09
	2,167	121.42	122.50	1.08
Existing Weir - Downstream	2,162	122.06	122.63	0.57
	2,154	122.15	122.69	0.54
	2,148	122.30	122.78	0.48
Weir Sill/Upstream limit of Roughened Fish Ramp	2,143	122.13	122.91	0.78
	2,127	122.63	122.89	0.26
	2,104	122.84	122.79	-0.05
	2,096	122.75	122.76	0.01
	2,091	122.72	122.76	0.04
	2,059	122.88	122.75	-0.13
	1,996	122.94	122.75	-0.19
	1,908	122.88	122.80	-0.08
	1,795	122.82	122.83	0.01
	1,762	122.82	122.84	0.02
1,646	122.75	122.78	0.03	
Downstream Limit of Roughened Fish Ramp	1,582	122.72	122.71	-0.01
Downstream Limit of Proposed Channel Modification	1,474	122.66	122.66	0.00
	1,343	122.54	122.54	0.00
	1,219	122.29	122.29	0.00

Notes: Light gray shading indicates a WSE increase from existing condition.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project is the construction of a new replacement diversion intake facility with fish migration improvements including a new Fish Ladder and Roughened-Channel Fishway with related pipelines at the existing SEWD Bellota Diversion facility. Once completed, the Project would not result in an increase in the risk for the release of pollutants during an inundation event as none would be involved with the Project. The Project would have **no impact** in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project is the construction of a new replacement diversion intake facility with fish migration improvements including a new Fish Ladder and Roughened-Channel Fishway with related pipelines at the existing SEWD Bellota Diversion facility. As discussed in response b) above, the Project would not use groundwater or impact groundwater recharge. None of the proposed improvements would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Project would have **no impact** in this area.

**4.10.4 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.11 Land Use and Planning**

This section describes the existing and planned land uses in the project area, identifies adopted General Plan policy that guides county land use and planning decisions, and evaluates land use impacts resulting from implementation of the proposed Project.

**4.11.1 Environmental Setting**

San Joaquin County is located in a geographically diverse region with the peaks of the Sierra Nevada framing its eastern region, while its western portion includes the San Joaquin Valley floor, which is

extensively cultivated. Unincorporated land accounts for about 90 percent (822,000 acres) of land in the county, and agriculture is the predominant use in the unincorporated area, totaling about 686,109 acres (83.2 percent of the unincorporated county). The second largest land use, in total acreage of the unincorporated area, is residential land, with about 40,410 acres in this use. Much of this unincorporated residential acreage is concentrated at the edges of existing cities and in urban and rural communities within the county.

As shown in *Figure 2-1*, the Project is located on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam. The Project Area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast. The Project site is shown on *Figure 2-2*. The Project site includes 15.5 acres and is accessed from two existing gated entrances: One at 42340 State Route 26 (referred to as the north entrance); and one at 24645 East Shelton Road (referred to as the east entrance). As shown on *Figure 2-2*, in addition to these existing entrances, three temporary construction entrances are proposed: two from East Shelton Road on the east side of Mormon Slough and one from SR 26 on the west side of Mormon Slough.

**4.11.1.1 General Plan and Zoning**

According to the San Joaquin County 2035 General Plan, the project site and surrounding properties are designated OS/RC (Open Space, preserved for resource production/Resource Conservation) by the San Joaquin County General Plan. The San Joaquin County Development Title identifies the Project site zoning as AG40 (General Agriculture 40 acres minimum). This zone is established to preserve agricultural lands for the continuation of commercial agriculture enterprises.

**4.11.1.2 Surrounding Land Use**

Consistent with general plan and zoning designations, surrounding land use is primarily agriculture (orchards) and rural residential. The nearest community is the town of Linden located approximately 4 miles west on SR 26.

**4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project site contains existing infrastructure and is not located within an established community. Therefore, implementation of the proposed Project would not divide an established community and would have **no impact** in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Operation of the Bellota Weir and diversion is guided by the final Calaveras River Habitat Conservation Plan (CHCP; NOAA 2020). The CHCP provides operational criteria to support the biological goals of maintaining a viable population of threatened California CV steelhead, *Oncorhynchus mykiss*, within the CHCP boundaries, and maintains adequate habitat conditions upstream of Bellota for fall-, late fall-, spring- or winter run Chinook salmon, *Oncorhynchus tshawytscha*, that may opportunistically migrate into the conservation area. The CHCP enables SEWD to comply with the ESA, protecting and managing fishery resources and habitat while maintaining reliable water delivery to its constituents. Following NMFS approval on August 11, 2020, the District is authorized for a 50-year Incidental Take Permit (ITP #23264), for ESA-listed species under NMFS authority.

Upgrade or replacement of the Bellota Diversion, Weir, and Calaveras Headworks is a required compliance measure specified in the CHCP. The proposed Project addresses these facilities and includes removal of barriers related to the existing Bellota Weir and flash board dam and is therefore consistent with this plan.

Additional county land use policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect are discussed below.

*LU-2.3: Adaptive Reuse. The County shall encourage the retention and the adaptive reuse of existing structures to limit the generation of waste.*

The Project includes adaptive reuse of existing structures and facilities to the degree feasible while adhering to applicable environmental commitments and regulatory requirements. The Project is consistent with this policy.

*LU-8.2: Open Space Character. The County shall require new development in Resource Conservation designated areas to be planned and designed to maintain the scenic open space character of the surrounding area, including view corridors from highways. New development should use natural landforms and vegetation in the least visually disruptive manner possible, and use design, construction, and maintenance techniques that minimize the visibility of structures.*

This policy requires "new development" in Resource Conservation areas be planned to maintain the scenic open space character of the surrounds area, including view corridors from highways. The Project is not considered "new development," although it does adhere to this policy to the degree feasible.



*LU-8.3: Waterway Conservation and Restoration. The County shall encourage the conservation and restoration of rivers, creeks, and sloughs as multi-functional open space corridors that complement adjoining development and connect city and county recreation facilities (e.g., parks).*

The proposed improvements constitute a restoration project and would result in improved fish migration and habitat and thus is consistent with this policy.

As discussed above, the Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **No impact** would occur.

#### **4.11.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

### **4.12 Mineral Resources**

#### **4.12.1 Environmental Setting**

The primary mineral resources in San Joaquin County are sand and gravel aggregate. Limited extraction of peat, gold, and silver is also known to occur. Historically, placer gold deposits had been found in many of the rivers and creeks in San Joaquin County which were dredged by independent contractors during the 1849 Gold Rush. Today, it is believed that all significant gold deposits have been fully extracted, and gold is typically found only as a secondary product of sand and gravel processing. During the 1970s and 1980s, the Delta Humus Company removed extensive amounts of peat soil from a portion of Venice Island; currently peat excavations occur on a very limited basis. The extent of silver mining in the County is unknown (San Joaquin County 2016).

#### **4.12.2 Regulatory Setting**

##### **4.12.2.1 Surface Mining and Reclamation Act of 1975**

The Surface Mining and Reclamation Act of 1975 (SMARA) states that cities and counties must adopt an ordinance(s) "which establishes procedures for the review and approval of reclamation plans and the issuance of a permit to conduct surface mining operations" (PRC Section 2774). The intent of this legislation is to ensure the prevention or mitigation of the adverse environmental impacts of mining, the reclamation of mined lands, and the production and conservation of mineral resources are consistent with recreation, watershed, wildlife, and public safety objectives (PRC Section 2712).

SMARA requires the State Geologist to classify land into Mineral Resource Zones (MRZs), according to the known or inferred mineral potential of that land. The process is based solely on geology, without regard to existing land use or land ownership. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions, which could preclude mining, are made. Areas subject to California mineral land classification studies are divided into MRZ categories that reflect varying degrees of mineral potential:

- MRZ-1: Areas of no mineral resource significance
- MRZ-2: Areas of identified mineral resource significance
- MRZ-3: Areas of undetermined mineral resource significance
- MRZ-4: Areas of unknown mineral resource significance

Public or private entities can petition the State Mining and Geology Board to classify specific lands that contain significant mineral deposits and that are threatened by land use incompatibilities.

**4.12.3 Mineral Resources (XII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project site is designated MRZ-3 in the *San Joaquin County 2035 General Plan Draft EIR*. The Project footprint would be similar to existing conditions once complete, and the Project would not involve any mining or preclude future mining efforts in the vicinity. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site because no mining operations exist on or adjacent to the Project site. There would be **no impact**.

**4.12.4 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## 4.13 Noise

### 4.13.1 Environmental Setting

#### 4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in  $L_{eq}$ ) and the average daily noise levels/community noise equivalent level (in  $L_{dn}/CNEL$ ). The  $L_{eq}$  is a measure of ambient noise, while the  $L_{dn}$  and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level ( $L_{eq}$ )** is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average ( $L_{dn}$ )** is a 24-hour average  $L_{eq}$  with a 10-dBA “weighting” added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.4 dBA  $L_{dn}$ .
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average  $L_{eq}$  with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2011). Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (FHWA 2011).

#### 4.13.1.2 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from

interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived by humans.
- Outside of the laboratory, a three-dBA change is considered a just-perceivable difference.
- A change in level of at least five dBA is required before any noticeable change in community response would be expected. An increase of five dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

#### **4.13.1.3 Noise Sensitive Land Uses**

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land uses to the proposed improvements include three single-family residences located across SR 26 to the west. Additionally, there is a single-family residence, fronting E. Sheldon Road, adjacent to the northeast corner of the Project.

#### **4.13.1.4 Vibration Fundamentals**

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

#### 4.13.1.5 Existing Ambient Noise Environment

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present" provides a table of approximate background sound levels in  $L_{dn}$ , daytime  $L_{eq}$ , and nighttime  $L_{eq}$ , based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 4.13-1. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "95% prediction interval [confidence interval] is on the order of  $\pm 10$  dB." The majority of the Project Site would be considered ambient noise Category 4 or 5.

Category	Land Use	Description	People per Square Mile	Typical $L_{dn}$	Daytime $L_{eq}$	Nighttime $L_{eq}$
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or for other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67 dBA	66 dBA	58 dBA
2	Moderate Commercial & Industrial Areas and Noise Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62 dBA	61 dBA	54 dBA
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic compose this category.	6,384	57 dBA	55 dBA	49 dBA

**Table 4.13-1. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density**

4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52 dBA	50 dBA	44 dBA
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small wooded valley.	638	47 dBA	45 dBA	39 dBA
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42 dBA	40 dBA	34 dBA

Source: ANSI 2013

#### 4.13.2 Regulatory Setting

##### 4.13.2.1 San Joaquin County General Plan Public Health and Safety Element

The 2016 Public Health and Safety Element of the San Joaquin County General Plan contains goals and policies that address noise-related issues within San Joaquin County. The following policy is identified as being applicable for consideration in CEQA review of the Project:

*PHS- 9.4: Acceptable Vibration Levels. The County shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby vibration-sensitive uses based on FTA criteria.*

##### 4.13.2.2 San Joaquin County Municipal Code

Section 9-1025.9, *Noise*, exempts noise sources associated with construction, provided such activities do not take place before 6:00 a.m. or after 9:00 p.m. on any day.

**4.13.3 Noise (XIII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

**Short-Term Construction**

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

As previously stated, the nearest existing noise-sensitive land uses to the proposed improvements include three single-family residences located across SR 26 to the west. Additionally, there is a single-family residence, fronting E. Sheldon Road, adjacent to the northeast corner of the Project. As previously described, Section 9-1025.9, *Noise*, exempts noise sources associated with construction, provided such activities do not take place before 6:00 a.m. or after 9:00 p.m. on any day. The County does not promulgate a numeric threshold pertaining to the noise associated with construction. This is due to the fact that construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptor in the Project vicinity and in order to evaluate the potential health-related effects (physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Noise Construction Model and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by the National Institute for Occupational Safety and Health (NIOSH). A division of the US Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA

for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA Leq is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the Project Site and at various distances from sensitive receptors. Therefore, this analysis employs the Federal Transit Administration (FTA) guidance for calculating construction noise, which recommends measuring construction noise produced by all construction equipment from the center of the Project Site (FTA 2018), which in this case is approximately 750 feet from the nearest sensitive receptor. The anticipated short-term construction noise levels generated for the necessary equipment during the most intense construction activity (the second year of construction) are summarized in Table 4.13-2.

<b>Table 4.13-2. Onsite Construction Average (dBA) Noise Levels by Receptor Distance and Construction Equipment</b>			
<b>Equipment</b>	<b>Estimated Exterior Construction Noise Level @ Noise-Sensitive Receptors</b>	<b>Construction Noise Standard (dBA L<sub>eq</sub>)</b>	<b>Exceeds Standards?</b>
Tractors/Loaders/Backhoes (3)	50.1 dBA (each)	85	No
Excavators (2)	53.2 dBA (each)	85	No
Grader	57.5 dBA	85	No
Crane	49.1 dBA	85	No
Roller	49.5 dBA	85	No
Compactor	52.7 dBA	85	No
Generator	54.1 dBA	85	No
Pile Drivers (2)	70.8 dBA (each)	85	No
<b>Combined Equipment</b>	<b>74.1 dBA</b>	85	<b>No</b>

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix H for Model Data Outputs.

Notes: Construction equipment used during construction derived from the Project Description. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 750 feet from the nearest residence.

L<sub>eq</sub> = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L<sub>eq</sub> of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.



As shown in Table 4.13-3, no individual or cumulative pieces of construction equipment would exceed the 85 dBA significance threshold for construction noise during any phase of construction at the nearby noise-sensitive receptors. A **less than significant** impact would occur and no mitigation is necessary.

### **Construction Traffic Noise**

Project construction would result in additional traffic on adjacent roadways over the time period that construction occurs. According to the CalEEMod model, which is used to predict the number of construction worker commute trips, construction vendor/delivery trips, and material hauling trips, the maximum number of construction workers traveling to and from the Project Site during a single construction phase would not be expected to exceed 16 trips in a single day. Material delivery and haul trips would represent the majority of traffic instigated by Project construction. According to CalEEMod and based on the amount of material anticipated to be imported and exported from the site, the Project can be expected to generate the need for 2,065 vendor and material haul trucks over the course of the first year of construction, 13,450 vendor and material haul trucks over the course of the second year of construction, 2,163 vendor and material haul trucks during the third year of construction, and 2,026 during the fourth year of construction. These trips would not occur in a single day but would rather be spread out over the entire construction season. For instance, the 13,450 vendor and material haul trucks anticipated to visit the site in the second year of construction would be spread over 8 months. Assuming 20 workdays in each month would equate to a maximum daily average of 84 vendor and material haul truck trips over the course of the second year of construction [ $8 \times 20 = 160$ .  $13,450 \div 160 = 84$ ]. The total of 84 vendor and material haul trips considered with the average daily worker commute trips equates to approximately 100 traffic trips daily.

According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The main regional roadway providing access to the Project Site is State Route 26. The segment of State Route 26 traversing the Project Site currently accommodated 5,500 average daily automobile trips daily (Caltrans 2022). Thus, the Project construction would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible. Additionally, it is noted that construction is temporary, and these trips would cease upon completion of the Project.

### **Project Operations**

Once construction is complete, no additional daily vehicle trips or personnel would be added to operate or maintain the proposed improvements beyond existing conditions. Thus, the Proposed Project would not include the provision of new permanent stationary or mobile sources of noise, and therefore, by its very nature, would not generate perceptible noise levels from Project operations. As such, there would be a **less than significant** impact due to operational noise.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

**Construction-Generated Vibration**

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur at multiple locations throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment are summarized in Table 4.13-3.

<b>Table 4.13-3. Representative Vibration Source Levels for Construction Equipment</b>	
<b>Equipment Type</b>	<b>PPV at 25 Feet (inches per second)</b>
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210
Pile Driver	0.734

Source: FTA 2018; Caltrans 2020

The County’s Noise Policy of the General Plan, Goal PHS-9.4, states that the County shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby vibration-sensitive uses based on FTA criteria. For the purpose of this analysis, the FTA’s recommendation of 0.2 inches per second PPV with respect to the prevention of

structural damage for non-engineered timber and masonry buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations for calculating vibration generated from construction equipment, construction vibration was measured from the center of the Project Site (FTA 2018). The nearest structure of concern to the construction site are residences located approximately 750 feet west of the Project Site center.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-3 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

$$[PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}]$$

Table 4.13-4 presents the expected Project related vibration levels at distances based on the various Project location and constructing phases. Vibration levels were calculated only for the equipment being proposed in each individual construction phase based on information provided by the Project applicant. For activities that incorporate both jurisdictions the most stringent threshold was applied.

<b>Table 4.13-4. Construction Vibration levels</b>								
<b>Receiver PPV Levels (in/sec)<sup>1</sup></b>						<b>Peak Vibration</b>	<b>Threshold</b>	<b>Exceed Threshold</b>
<b>Large Bulldozer, Caisson Drilling, &amp; Hoe Ram</b>	<b>Loaded Trucks</b>	<b>Jackhammer</b>	<b>Small Bulldozer</b>	<b>Vibrator y Roller</b>	<b>Pile Driver</b>			
<b>Nearest Offsite Structure (approximately 750 feet from nearest construction activities)<sup>1</sup></b>								
0.016	0.014	0.006	0.001	0.039	<b>0.138</b>	<b>0.138</b>	0.2	<b>No</b>

Notes: <sup>1</sup>Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-4 (FTA 2018). Distance to the nearest structure of concern is approximately 750 feet measured from Project Site center.

As shown in Table 4.13-5, vibration as a result of construction activities would not exceed the applied threshold at the nearest structure. Thus, Project construction would not exceed the recommended threshold. The impact would be **less than significant**.

**Operation-Generated Vibration**

Once construction is complete, there would be no use of any equipment beyond current conditions. Therefore, the Project would not result in groundborne vibration impacts during operations. **No impact** would occur.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project site is not located within the vicinity of a private airstrip or located within an airport land use plan. there are no public or public use airports within two miles. The Proposed Project would not expose people working or visiting the Project Site to excess airport noise levels. **No impact** would occur.

**4.13.4 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.14 Population and Housing**

As shown in Figure 2-1, the Project is located within unincorporated San Joaquin County on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, about 17 miles downstream of the New Hogan Dam. The Project Area includes 15.5 acres and is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast.

**4.14.1 Environmental Setting**

As described in section 4.11.1 Environmental Setting of the Land Use and Planning section, the surrounding land uses are consistent with general plan and zoning designations. Surrounding land use is primarily agriculture (orchards) and rural residential. The nearest community is the town of Linden located approximately 4 miles west on SR 26.

The California Department of Finance (DOF) provides estimated population and housing unit demographics by year throughout the state. The DOF estimates that San Joaquin County had a total population of 783,534 and the unincorporated County had a population of 155,691 as of January 1, 2021 (DOF 2021), There were 252,686 total housing units in San Joaquin County and 52,405 in the unincorporated County as of January 1, 2021 (DOF 2021).

**4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The proposed Project would not affect local population growth; and therefore, would not affect population and housing. Improvement of the existing facilities to provide protection for threatened CV steelhead and provide more reliable water delivery would not directly or indirectly induce population growth, displace housing, or necessitate construction of replacement housing and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

As discussed in item a) above, the Project’s characteristics preclude the displacement of people and/or housing. Furthermore, there were 252,686 total housing units in San Joaquin County and 52,405 in the unincorporated County as of January 1, 2021. Although one existing dilapidated/uninhabitable residence would be demolished as part of the Project, this loss is insignificant compared to the existing housing stock. Thus, no people or existing habitable housing would be displaced necessitating the construction of replacement housing elsewhere. There would be **no impact**.

**4.14.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.15 Public Services**

**4.15.1 Environmental Setting**

Public services include fire protection, police protection, schools, parks, and emergency medical facilities. Generally, impacts in these areas are related to an increase in population from a residential development.

Levels of service are generally based on a service to population ratio, except for fire protection, which is usually based on a response time.

### **Police Services**

Law enforcement services are provided by the San Joaquin County Sheriff's Office (Sheriff's Office) within the unincorporated County. The Sheriff's Office is responsible for an estimated 21 percent of the total County Population. Deputy Sheriffs are responsible for providing emergency response capabilities to citizens within their designated district or "beat areas." There are eight districts in San Joaquin County. The Project site is located within "beat area 2" (San Joaquin County 2014).

The Sheriff's Office also provides other law enforcement services as needed and consists of seven divisions: Civil and Custody Division, Coroner's Office, Internal Affairs Division, Public Information and Records Division, Administration Division, Investigations Division, and Operations Services Division (San Joaquin County 2014).

The Sheriff's Office is located at 7000 Michael Canlis Boulevard, French Camp, approximately 24.2 miles southwest of the Project site (Google Earth 2022).

### **Fire Services**

In the unincorporated areas of San Joaquin County, fire protection services are provided by independent special district fire departments and the California Department of Forestry and Fire Protection (San Joaquin County 2014). In some circumstances, services are contracted through city fire departments.

There are 22 fire protection districts protecting the San Joaquin County region. Collectively the districts are staffed with paid firefighters, reserve firefighters, volunteer firefighters, and administrative staff that provide support services. Additional fire districts provide fire protection within unincorporated areas and remote communities. All public fire protection agencies in San Joaquin County operate under a master mutual aid agreement (San Joaquin County 2014).

Linden-Peters Fire District is the closest station to the Project site, located approximately 5.2 miles to the southwest.

### **Schools**

Linden High School and Linden Elementary School are the nearest schools to the Project site. They are located approximately 4.8 and 5.5 miles southwest of the Project site respectively.

### **Parks**

The San Joaquin County Parks and Recreation department manages the operation and expansion of all County-owned regional, community, and neighborhood park facilities within the County. The County owns and operates nearly half of the regional parks facilities, while the remaining parks are owned and operated by cities within the county (San Joaquin County 2014). There are approximately 500 acres of regional parks and recreation areas; 1,494 acres of state parks and recreation areas; and 2,632 acres of local parks and recreation areas in the County (San Joaquin County 2014).

The closest park to the proposed Project is S.L. Fong Park located at 2408 Thistle Way, Stockton, approximately 17.9 miles southwest of the Project. All regional, community, and neighborhood parks are located west of the Project site (Google Earth 2022).

**Emergency Medical Facilities**

The nearest medical facility is San Joaquin General Hospital located at 500 W Hospital Road, French Camp approximately 23.2 miles southwest of the Project site.

**4.15.2 Public Services (XV) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

SEWD currently operates and maintains the Project site and would continue to do so post-construction. The routine maintenance activities would not result in substantial adverse physical impacts to existing service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities as it will not result in a development requiring additional responsibilities for these public services. Therefore, there would be **no impact**.

**4.15.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **4.16 Recreation**

### **4.16.1 Environmental Setting**

#### **Federal and State Facilities**

There are four federal and state wildlife facilities located within San Joaquin County that provide protection for special-status species and opportunities for public wildlife viewing including the San Joaquin River National Wildlife Refuge (Mohler Tract falls), White Slough Wildlife Area, Woodbridge Ecological Preserve, and the Corral Hollow Ecological Reserve. The later three facilities are owned and operated by CDFW (San Joaquin County 2014).

#### **Regional Facilities and Local Parks**

As described in section 4.15 Public Services, the San Joaquin County Parks and Recreation department manages the operation and expansion of all County-owned regional, community, and neighborhood park facilities within the County. The County owns and operates nearly half of the regional parks facilities, while the remaining parks are owned and operated by cities within the county (San Joaquin County 2014). There are approximately 500 acres of regional parks and recreation areas; 1,494 acres of state parks and recreation areas; and 2,632 acres of local parks and recreation areas in the County. In addition, there are approximately 1,386 acres of state wildlife areas that contribute to the collective designated open space within the County. The County's regional parks offer a variety of active and passive recreation, including hiking and fishing, sports fields, boat launching, zoos, gardens, museums, and amusement parks. (San Joaquin County 2014).

Local parks in San Joaquin County include neighborhood parks, community parks, and mini parks and are mostly owned and operated by cities. Two facilities located in the unincorporated county are operated separately and include: Morada Park is operated exclusively as a Little League facility in the community of Morada, and the Mountain House Park is operated by the Mountain House Community Services District (San Joaquin County 2014).

The closest park to the proposed Project is S.L. Fong Park located at 2408 Thistle Way, Stockton, approximately 17.9 miles southwest of the Project. All regional, community, and neighborhood parks are located west of the Project site (Google Earth 2022).

#### **Other Recreation Opportunities**

The California Delta provides a wide variety of both land-based (i.e. hunting, camping, picnicking, hiking, and biking) and water-based (i.e. fishing, sailing, water skiing, and operating personal watercraft) recreational and tourism activities for County residents and the wider Bay Area region. In addition to the Delta, the County has several waterway recreation areas where residents and visitors can participate in land-based and water-based recreational activities including the Camanche Reservoir and Mokelumne Day Use Area, owned, and operated by the East Bay Municipal Utility District; Stillman L. Magee Regional Park and the Woodbridge Regional Park which provide access to the Mokelumne River (both facilities are operated by the County); and the San Joaquin River is accessible for recreation by Dos Reis Regional Park



and the Mossdale Crossing Regional Park. The Caswell Memorial State Park is the only public recreation area in the County that provides access to the Stanislaus River. The Calaveras River, located in proximity to the Project site, is also limited in recreation opportunities with only one public access area at the levees on Mormon Slough below the Bellota Dam (San Joaquin County 2014).

Other recreational opportunities located within the County include school playgrounds and bikeways. There are a total of 27 public and private golf courses located in the unincorporated county (San Joaquin County 2014).

The entire 12.5-acre Project site is owned by SEWD and fenced to prevent public access. Other than functioning as a view shed from the adjacent locally designated scenic routes (i.e., SR 26 and East Shelton Road), the Project site does not include existing, nor is it designated to accommodate future, public recreation opportunities.

**4.16.2 Recreation (XVI) Materials Checklist**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

As discussed above, the Project involves reconstruction and modernization of the existing Bellota Flashboard Dam, Bellota Intake, related pipelines and fish ladder and there are no designated public recreation areas within the Project site. As such the Project would not increase population or otherwise cause increased use of existing neighborhood and/or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.** The Project does not propose the use of existing recreational facilities or require construction or expansion of any existing or new recreational facilities which might have an adverse physical effect on the environment. There would be **no impact**.

### **4.16.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

## **4.17 Transportation**

On September 27, 2013, former Governor Jerry Brown signed SB 743 into law and started a process that will fundamentally change transportation impact analysis conducted as part of CEQA compliance. The Governor's OPR was charged with developing new guidelines for evaluating transportation impacts under CEQA using methods that no longer focus on measuring automobile delay and level of service.

OPR issued proposed updates to the CEQA Guidelines in support of these goals in November 2017 and a supporting technical advisory in December 2018. The updates establish vehicle miles traveled (VMT) as the metric for evaluating a project's environmental impacts on the transportation system. Lead agencies, including SEWD, had until July 1, 2020, to implement these new requirements.

San Joaquin County released a *Draft VMT Thresholds Study* on July 17, 2020. Under the guidelines from that study, the proposed Project would qualify as an "Other Project Type" as it would only generate short-term vehicle trips during construction and would not significantly increase VMT upon completion. Intermittent maintenance trips by SEWD would continue to occur consistent with past practices once the Project is operational.

### **4.17.1 Environmental Setting**

#### **4.17.1.1 State Route 26**

State Route 26 (SR 26) is a minor arterial in San Joaquin County (San Joaquin County 2016a). The north entrance for the Project site is located at 42340 State Route 26. SR 26 runs from SR 99 in Stockton to SR 88 in Pine Grove, Amador County.

#### **4.17.1.2 E Shelton Road**

E Shelton Road is a two-lane east-west running road that begins at its intersection with Escalon-Bellota Road, about 250 feet south of SR-26. The east entrance for the Project site is located at 24645 E Shelton Road, just east of that intersection. E Shelton Road is surrounded by agricultural uses and serves a few residential uses. E Shelton Road ends at the intersection with N Shelton Road and N Waverly Road, approximately 4 miles to the east.

**4.17.2 Transportation (XVII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

Short-term construction trips would include construction equipment deliveries, construction worker trips, and hauling trips for construction material; however, these impacts would be temporary and would cease upon Project completion. When compared to past practice, long-term operation of the Project would not generate an increase in vehicle trips that would adversely affect the circulation system. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project would not generate any additional trips long-term and therefore can be screened from VMT analysis consistent with County guidelines. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project includes construction of new permanent and temporary access driveways/site entrances and internal circulation improvements designed to accommodate the types of large service and delivery vehicles anticipated during Project construction and operation. The Project would not introduce transportation hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

The Project Area is situated north of Escalon-Bellota Road between SR 26 on the west and East Shelton Road on the southeast. The Project site is shown on *Figure 2-2*. The Project site includes 15.5 acres and is accessed from two existing gated entrances: one at 42340 State Route 26 (referred to as the north entrance) and one at 24645 East Shelton Road (referred to as the east entrance). As shown on *Figure 2-2*, in addition to these existing entrances, three temporary construction entrances are proposed: two from East Shelton Road on the east side of Mormon Slough and one from State Route SR 26 on the west side of Mormon Slough. Thus, the Project site is served by multiple access points and would not result in inadequate emergency access. Related impacts are **less than significant**.

**4.17.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.18 Tribal Cultural Resources**

**4.18.1 Environmental Setting**

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs) in the project area. The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California NAHC Sacred Lands File Search, March 8, 2022
- Cultural Resources Inventory and Evaluation Bellota Weir Modification Project Draft. ECORP Consulting, Inc. 2022
- Ethnographic overviews of the Nisenan (Kroeber 1925, 1936; Wallace 1978, Shipley 1978, Cook 1955)
- Confidential AB52 tribal consultation with the Wilton Rancheria including meeting held on February 16, 2022.

**4.18.2 Environmental Setting**

**4.18.2.1 Ethnographic, Religious, and Cultural Context**

Prior to the arrival of European Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Murdock 1960; Driver 1961), recognized the uniqueness of California’s indigenous

groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about one third of the state's native population, lived in the Central Valley (Moratto 1984:171). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Central area (as defined by Kroeber 1925) encompasses the current Project Area and includes the Yokuts.

Ethnographically, the Project Area is associated with territory occupied by the Penutian-speaking Northern Valley Yokuts. Their territory extended from above the junction of the San Joaquin, Old, and Mokelumne rivers on the north, to the big westward bend in the San Joaquin River in the south. Unfortunately, the ethnography of the northern, or lower, San Joaquin Valley is poorly known, due to the fact that the native inhabitants were for the most part gone by the time studies were undertaken. Disease, flight from missionization, and conflicts with the miners and settlers who suddenly entered the area in large numbers reduced the native population to small, isolated remnants. Thus, the available information has been gleaned from historic accounts of early explorers, soldiers, hunters and trappers, missionaries, etc. Archaeology has added some information, but the record is by no means complete (Wallace 1978b).

The Yokuts, (meaning *person* or *people*) Penutian/Yokutsan speakers, were divided into three distinct groups: the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothills Yokuts. These groups spoke different dialects and were separated by topography (Kroeber 1925; Shipley 1978). Controversy surrounds the date for Yokut presence in the northern part of the San Joaquin Valley. Linguistic studies suggest that the Northern Valley Yokuts were relatively recent arrivals, moving from the south about 500 years ago, as a result of pressure from Numic speakers moving into the San Joaquin drainage from the west. However, Moratto (1984) suggests that a Yokuts presence in the Stockton area can be discerned in the archaeological record before AD 400, and a drying up of the lower foothills and valley may have triggered occupation of the riverbanks at that time. In any case, by the time of the Spanish entrada in the early part of the nineteenth century, the Northern Valley Yokuts were well entrenched, with established settlements on low mounds in the Delta and along the banks of the San Joaquin and its tributaries. Total population estimates for the San Joaquin Valley range from 11,000 to more than 52,000; however, the true population is not known (Moratto 1984; Wallace 1978b).

Settlements were of small round to oval structures, covered with light, woven tule reed mats, concentrated in a narrow strip, mostly along the eastern bank of the San Joaquin River, and along its tributaries. Sweathouses and ceremonial chambers were also found in these villages (Wallace 1978b). Kroeber (1925) suggests that territories of the tribes within the Yokuts group averaged about 300 square miles, which he suggests is about a half-day's walk in each direction. Though no records exist, it is likely that social organization was centered on the family. It has been suggested that the Southern Valley Yokuts were divided into two moieties based on patrilineal descent, and this may have been true for those in the north, also (Wallace 1978b). However, marriage was largely matrilineal, with the groom moving in with the

bride's family. Polygamy was also practiced, with wives located in several villages, thus creating ties and alliances between dispersed groups (Kroeber 1925).

Given their proximity to rivers and the Delta, a large part of Northern Valley Yokuts subsistence was based on fishing. King salmon, which spawned in the San Joaquin River and its tributaries, were an important resource, but they made use of other native species such as white sturgeon (*Acipenser transmontanus*), river perch (*Perca fluviatilis*), and Sacramento pike (*Ptychocheilus grandis*) as well. Dragnets with stone sinkers were used, as were harpoons with bone or antler tips (Wallace 1978b).

In addition, the enormous populations of waterfowl present in the valley were exploited, as were the large herds of tule elk (*Cervus canadensis nannodes*) and pronghorn antelope. It is thought, however, that hunting was a marginal resource procurement activity, when compared to fishing. Gathering of plant resources, though, was as important as fishing, with acorns from the stands of huge valley oaks being a major component of this activity. Tule roots and a variety of seeds also were utilized (Wallace 1978b).

Generally sedentary, the Northern Valley Yokuts would disperse seasonally for hunting and gathering expeditions and were sometimes forced out by flooding (Wallace 1978b). Chiefs gained their position through wealth, and since women were occasionally chiefs, inheritance appears to have been important (Kroeber 1925). Like their Nisenan neighbors to the north, the Northern Valley Yokuts were politically organized into tribelets, estimated to be of about 300 people each. Tribelets known to be in the Delta area were the Chulamni, the Cholbones, the Coybos, and the Nototemnes. A tribelet identified as the Leuchas reportedly lived near the Project Area but were mostly missionized by about 1815 (Cook 1955, cited in Becker 2004).

### **4.18.3 Regulatory Setting**

#### **4.18.3.1 Assembly Bill 52**

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes 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 the Statutes of 2004." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

- 1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
- b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
- c. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as an Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

#### **4.18.3.2 Summary of Tribal Consultation**

CEQA, as amended in 2014 by Assembly Bill 52 (AB 52), requires that the SEWD provide notice to any California Native American tribes that have requested notice of projects subject to CEQA review, and consult with tribes that responded to the notice within 30 days of receipt with a request for consultation. Section 21073 of the Public Resources Code (PRC) defines California Native American tribes 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 the Statutes of 2004.” This includes both federally and non-federally recognized tribes. For SEWD, these include the following tribes that previously submitted general request letters, requesting such noticing:

- Wilton Rancheria (original letter dated July 1, 2015, updated on January 13, 2020)
- Chicken Ranch Rancheria of Me-Wuk Indians of California (letter dated August 26, 2020)
- Torres Martinez Desert Cahuilla Indians (letter dated May 5, 2016)
- Buena Vista Rancheria of Me-Wuk Indians (letter dated April 7, 2016)

Within 14 days of initiating CEQA review for the Project, on December 16, 2021, the SEWD sent Project notification letters to the four California Native American tribes named above, which had previously submitted general consultation request letters pursuant to Section 21080.3.1(d) of the PRC. The letter provided each tribe with a brief description of the Project and its location, the contact information for SEWD’s authorized representative, and a notification that the tribe has 30 days to request consultation.

### **Wilton Rancheria**

On January 19, 2022, and within the 30-day response timeframe, ECORP Consulting, Inc. received an email from the Cultural Preservation Department of Wilton Rancheria that contained a letter accepting consultation under AB 52 for the project. In their response, Wilton requested to receive a copy of the cultural resources technical study or other assessments that have been completed for the project. Subsequently, on February 1, 2022, SEWD initiated consultation with Wilton Rancheria and acknowledged the tribe's inquiry of a cultural report. SEWD confirmed that preparation of a cultural resources report was underway and would be provided to the Cultural Preservation Department upon completion. Moreover, SEWD welcomed the opportunity to further discuss the project, and offered a meeting date of February 16, 2022, at the Project site. Mariah Mayberry with Wilton Rancheria accepted the proposed meeting date, and the consultation meeting was held on February 16, 2022, at the Project location. Ms. Mayberry did not have any additional information about cultural resources or TCRs in the area but requested that a monitor be present during ground disturbing activities. On March 18, 2022, the cultural resources technical report prepared by ECORP Consulting, Inc. was transmitted to Ms. Mayberry. Ms. Mayberry responded on March 24, 2022 requesting tribal monitoring during ground disturbance. On April 7, 2022, SEWD sent a letter agreeing to tribal monitoring during ground disturbance as a mitigation measure. This letter also stated that the Wilton Rancheria did not identify a TCR within the Project Area, and that consultation has been concluded. The Wilton Rancheria responded that same day via email thanking SEWD for the letter, thereby concluding AB52 consultation.

### **Chicken Ranch Rancheria of Me-Wuk Indians of California**

The Chicken Ranch Rancheria of Me-Wuk Indians did not respond to SEWD's notification letter, and therefore, the threshold for carrying out tribal consultation with that tribe under PRC 21080.3.1(e) was not met, and no further consultation is warranted.

### **Torres Martinez Desert Cahuilla Indians**

The Torres Martinez Desert Cahuilla Indians did not respond to SEWD's notification letter, and therefore, the threshold for carrying out tribal consultation with that tribe under PRC 21080.3.1(e) was not met, and no further consultation is warranted.

### **Buena Vista Rancheria**

The Buena Vista Rancheria did not respond to SEWD's notification letter, and therefore, the threshold for carrying out tribal consultation with that tribe under PRC 21080.3.1(e) was not met, and no further consultation is warranted.

#### **4.18.4 Tribal Cultural Resources**

Information about potential impacts to TCRs was drawn from: 1) the results of a search of the Sacred Lands File of the NAHC; 2) existing ethnographic information about pre-contact lifeways and settlement patterns; 3) information on archaeological site records obtained from the California Historical Recourse Information System; and 4) tribal consultation with the Wilton Rancheria.



#### **4.18.4.1 Sacred Lands File Search**

A search of the NAHC Sacred Lands File was requested on December 12, 2021. The NAHC responded on March 8, 2022 that the results were negative. The NAHC included a list of suggested tribal representatives to contact who may have more information. The Wilton Rancheria, Chicken Ranch Rancheria, and Buena Vista Rancheria were on the list of contacts, and these individual tribes were offered an opportunity for formal consultation. A summary of the consultation is provided above.

#### **4.18.4.2 Ethnographic Information**

The ethnographic information reviewed for the project, including ethnographic maps and *The Handbook of North American Indians* (Bennyhoff 1977:114) lists the nearest Native American village as an unnamed village in the immediate vicinity of the Project Area and states that “[o]ne group of Muqueleme were living at Athens Ferry on the Calaveras River (just east of Bellota) in 1852.”

#### **4.18.4.3 Archaeological Site Records**

Approximately 20 percent of the area within a 0.5-mile radius surrounding the Project Area has been subject to cultural surveys and several pre-contact archaeological sites have been previously recorded in the vicinity, including P-39-4531 within the current Project Area. In addition, a complete survey, inventory, and subsurface testing program by ECORP Consulting (2022) resulted in confirmation that a portion of pre-contact site P-39-4531 exists within the project area. Additional information about cultural resources can be found in Chapter 4.5 of this CEQA document.

#### **4.18.4.4 Tribal Consultation Results**

Consultation with Wilton Rancheria indicated that archaeological site P-39-4531 is not a TCR within the Project Area. However, there still remains the possibility of inadvertent discovery of TCRs due to the Project Area containing a known pre-contact cultural resources and being adjacent to a waterway. As a result, the Wilton Rancheria have requested that a tribal monitor be present to observe ground disturbance during construction.

In accordance with Section 21082.3(c)(1) of the PRC, “... information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is 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 subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information.” Therefore, specific information about TCRs is not included in this CEQA document and remains within a confidential administrative record and not available for public disclosure without written permission from the tribe.

## **Conclusions**

The searches of the Sacred Lands File by the NAHC did not identify TCRs or sacred lands within or immediately adjacent to the Project Area. The ethnographic record for the area indicates that all known village or settlements are at least several miles away from the Project Area. Archaeological surveys did identify a pre-contact Native American archaeological site within the Project Area. Consultation with Wilton Rancheria did not identify a TCR within the Project Area.

### **4.18.4.5 Standards of Significance**

#### **Significance Criteria**

AB 52 established that a substantial adverse change to a TCR has a significant effect on the environment. In assessing substantial adverse change, SEWD must determine whether or not the Project will adversely affect the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, § 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the Project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, SEWD need only address the aspects of integrity that are important to the TCR's significance.

### **4.18.5 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated.**

As discussed above P-39-4531 is not considered a TCR under CEQA. However, there still remains the possibility of inadvertent discovery of TCRs due to the Project Area containing a known pre-contact cultural resources and being adjacent to a waterway. As a result, the Wilton Rancheria have requested that a tribal monitor be present to observe ground disturbance during construction. Implementation of Mitigation Measures **CUL-1, CUL-2, CUL-3,** and **TCR-1** would reduce this impact to **less than significant with mitigation incorporated.**

**4.18.6 Mitigation Measures**

Implement Mitigation Measures **CUL-1, CUL-2,** and **CUL-3** as presented in Cultural Resources Section 4.5.5 above and implement **TCR-1** below.

**TCR-1: Monitor Ground Disturbance to Avoid and Minimize Impacts to Previously Unknown TCRs**

A qualified tribal monitor representing a consulting tribe shall have the opportunity to monitor all vegetation removal, soil excavation, and any activity that has the potential to disturb more than six (6) inches of original ground. The monitor must be given a minimum of forty-eight (48) hours' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. If present, the monitor must be provided a safe and reasonable view of ongoing work areas to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential Tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six (6) inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of

previously excavated areas for which notification was given. Excavated sediment from the river channel will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with the unanticipated discovery measures in the Cultural Section.

## **4.19 Utilities and Service Systems**

### **4.19.1 Environmental Setting**

#### **4.19.1.1 Water**

Potable water for irrigation and domestic use in the County is provided through multiple agencies and water projects, including federal, regional, and local water districts, special districts, and private systems. Irrigation, water, and water conservation districts are located throughout the County, some small, others spanning several planning areas. While some cities and unincorporated areas of the County are served by imported surface water from water districts or municipal water systems, some communities are not located within water districts or do not have water systems that provide water service. These communities must rely on private wells and groundwater. However, most water supply districts in San Joaquin County have been transitioning away from groundwater sources to surface water to reduce overdraft of groundwater. The Project site is located within the unincorporated County and is not currently served by a water district.

#### **4.19.1.2 Wastewater Treatment**

Sanitary sewer service within San Joaquin County is provided by several special districts that serve individual communities and include community service districts, public utility districts, sanitary districts, and sewer maintenance districts. Some special districts are connected to cities but operated independently, while other districts were created to serve planned developments that were never built. Some agencies provide sewer collection services only, and contract with major sewer districts who have sewer treatment facilities for wastewater treatment and disposal. The cities of Escalon, Ripon, and Tracy primarily provide service to residents in incorporated areas and rely on private septic systems to serve unincorporated areas. Several of the unincorporated communities lack sanitary sewer infrastructure and use individual or community septic systems. The Project site is not currently served by any sewer or wastewater treatment districts or facilities. Wastewater disposal in the Project Area is by individual septic systems.

#### **4.19.1.3 Storm Water Drainage**

San Joaquin County is the primary provider for storm drainage infrastructure to unincorporated areas in the County such as the Project site. Many communities do not have a storm drainage system in place and other communities rely entirely on surface drainage to convey stormwater. Surface drainage systems typically receive little maintenance and may experience increased instances of flooding. Typically, there is little time to treat stormwater runoff in these systems, posing a threat to wildlife, farm animals, and groundwater supplies as the runoff picks up contaminants from pavement and is discharged into

groundwater aquifers, rivers, or irrigation ditches. The Project site is not currently served by any public storm water drainage system. Storm water that falls on the Project site sheet flows to low lying areas/drainages and discharges to either the Old Calaveras River or Mormon Slough.

**4.19.1.4 Electricity**

Electric service to the Project site is provided by PG&E.

**4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project would not require the offsite relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. There would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

While the Project would increase the capacity of SEWD to divert water for domestic use consistent with existing water rights, operation of the Project itself would not result in water consumption and thus there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project would not generate wastewater and there would be **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

Demolition and construction activities associated with the Project would generate solid waste. However, the solid waste generated would not exceed the capacity of local infrastructure/landfills and would not impair the attainment of solid waste reduction goals. Foothill Sanitary Landfill is the closest landfill to the Project site, approximately 5.4 miles southwest, and would be the likely recipient of Project construction waste. Related impacts are **less than significant**. No mitigation is required.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant impact.**

The California Integrated Waste Management Act requires every county to adopt an integrated waste management plan that describes county objectives, policies, and programs relative to waste disposal, management, sources reduction, and recycling. San Joaquin County Department of Public Works reviews and approves all construction projects required to submit a Construction and Demolition Solid Waste Management Plan. The disposal of solid waste due to construction activities will comply with all federal, state, and local statutes and regulations. Impacts to solid waste statues and regulations will be **less than significant**.

**4.19.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.20 Wildfire**

**4.20.1 Environmental Setting**

Generally, California fire season extends from spring to late fall. Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in the air. These conditions, when combined with high winds and years of drought, increase the potential for wildfire to occur. The California Department of Forestry and Fire Protection (CAL FIRE) provides wildland fire protection services on private, non-federal lands for the purpose of life, property, and resource protection. U.S. Forest Service and BLM provide wildland fire protection services on federal lands in Federal Responsibility Areas for watershed and resource protection. Some areas are also identified as Local Responsibility Areas.

**4.20.2 Wildfire (XX) Environmental Checklist and Discussion**

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact**

The Project site is located in a Local Responsibility Area (LRA) and not in a FHSZ. The entire area surrounding the Project is also LRA. The Project site is located on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River and not within an area that would be used by emergency response or as an emergency evacuation route.

San Joaquin County has drafted a set of *Emergency Operations Plans* (EOP), which includes standard operating procedures for hazards, including wildfires. The Proposed Project would not impair emergency response or evacuation plans identified in the EOP because it would not affect any service ratios or evacuation routes. **No impact** would occur.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact**

As described above, the Project site is not located within or near a state responsibility area or lands classified as very high fire hazard severity zone. The closest FHSZ area is approximately 15.5 miles east of the Project site. Therefore, **no impact** would occur.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact**

As described above, the Project site is not located within or near a state responsibility area or lands classified as very high fire hazard severity zone. The closest FHSZ area is approximately 15.5 miles east of the project site. Additionally, the project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Therefore, **no impact** would occur.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

As discussed in *Section 4.7 Geology and Soils*, land slide risk at the Project site would be mitigated by implementing recommendations contained in the Project’s Geotechnical Report which includes recommendations designed to address and mitigate site-specific soil conditions, including land slide.

The project is located along the Calaveras River and can be subject to flooding during major rain events. However, the Project would not create significant runoff, drainage changes, or slope instability. Furthermore, as discussed in 4.10 Hydrology and Water Quality response iv) according to the 1D HEC-RAS model prepared for the Project, a no-rise condition is generally achieved along the entire study reach, except for a few localized increases in WSE at the proposed weir and along the proposed fish passage ramp. According to the HEC-RAS model, the water surface was not affected downstream of the proposed channel modifications, and the water surface upstream of the proposed weir was lower under proposed conditions than under existing conditions. Within the reach that experienced an increase in the 100-year water surface under proposed conditions, the proposed WSE was contained within the channel and did



not exceed the vertical extents of the riprap lining. Finally, there are no insurable structures at these locations and localized increases in water surface are unlikely to pose increased flooding risk along the study reach. Therefore, **no impact** would occur.

**4.20.3 Mitigation Measures**

No significant impacts were identified, and no mitigation measures are required.

**4.21 Mandatory Findings of Significance**

**4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion**

<b>Does the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less than Significant with Mitigation Incorporated.**

As described in *Section 4.4 Biological Resources*, onsite biological resources that could be affected by the Project include special-status wildlife including VELB, Swainson's hawk, Tricolored blackbird, and Central valley steelhead. Recommended biological resource Mitigation Measures **BIO-1 through BIO-11** would be implemented to ensure all potential impacts sensitive species and their habitats are mitigated to less than significant levels. As noted throughout this Initial Study, as an alternative to traditional resource agency permit driven mitigation, SEWD may seek coverage for certain species under the SJMSCP. Should the Project participate, it is expected that SJMSCP biological resource mitigation would be implemented for the following species covered by the SJMSCP: Swainson's hawk, Tricolored blackbird, and Valley elderberry long horn beetle. Under this approach, biological resource mitigation measures contained in this Initial Study would only be implemented for the balance of species impacts identified, but not covered by the SJMSCP. Should the Project not participate in the SJMSCP, all recommended mitigation measures contained in this initial study would be implemented. Thus, under either approach, impacts to special status species would be mitigated to less than significant.

While the Project would result in impacts to riparian and aquatic habitats, Mitigation Measures **BIO-1, BIO-2, BIO-4, BIO-8, BIO-9, BIO-10, and BIO-11** would ensure habitat replacement and/or restoration and ensure no net loss of wetlands or waters.

As indicated in **Section 4.5, Cultural Resources**, and **Section 4.20, Tribal Cultural Resources**, the Project is expected to avoid direct impacts to known cultural and tribal resources. Further, implementation of Mitigation Measures **CUL-1, CUL-2, CUL-3** and **TCR-1** would ensure onsite historic, cultural, and tribal resources are avoided and protected. Should any cultural or tribal resources or human remains be encountered during construction, construction activities would be halted, and a professional archaeologist consulted. Similarly, implementation of Mitigation Measure **GEO-1** would ensure potential paleontological resource impacts are mitigated to less than significant. Thus, Project would not cause a significant change to the quality of the environment and related impacts would be **less than significant with mitigation incorporated**.

<b>Does the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

All impacts were found to be less than significant, including air quality and greenhouse gas. The Project is limited to replacement of an existing facility. There would be no cumulative impacts.

<b>Does the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less than significant Impact.**

Potential impacts to human beings include increase in ambient noise during construction and increases in air emissions including PM (dust) during construction. These impacts were found to be temporary and less than significant. Implementation of the Project’s Mitigation Monitoring Program will ensure compliance with related measures.

Based on analysis contained in this initial study, and the fact that the Project is proposed within SEWD’s existing Bellota Wier Diversion Facility, no direct or indirect impacts to human beings are identified. Therefore, Project operation would not result in any substantial adverse effects on human beings and related impacts are **less than significant**.

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## **LIST OF APPENDICES**

### Appendix A – Project Design and Engineering Technical Reports

- A-1 Draft (90%) Geotechnical Investigation Report, Bellota Weir Modifications Project, Mormon Slough, Calaveras River, CA (HDR, Inc. February 7, 2022)
- A-2 Draft 90% Hydraulic Modeling Summary Report, Bellota Weir Modifications Project Mormon Slough, Calaveras River, CA (HDR Inc. & KSN Inc. February 4, 2022)
- A-3 Draft (90%) Design Documentation Report, Bellota Weir Modifications Project, Mormon Slough, Calaveras River, CA. (HDR Inc. & KSN Inc. February 7, 2022)

### Appendix B – Air Quality – CalEEMod Reports (ECORP Consulting, Inc. 2022)

### Appendix C – Biological Resources

- C-1 Aquatic Resources Delineation, Stockton East Water District “Bellota Weir Modifications Project” San Joaquin County, California (Moore Biological Consultants. 2022a)
- C-2 Biological Assessment, Stockton East Water District “Bellota Weir Modifications Project” San Joaquin County, California (Moore Biological Consultants. 2022b.)
- C-3 Biological Assessment of Potential Impacts of the Bellota Weir Modification Project on Fisheries Resources (FISHBIO. June 2022.)

### Appendix D – Cultural Resources Inventory and Evaluation for the Bellota Weir Modification Project (ECORP Consulting, Inc. 2022)

### Appendix E – Energy – Proposed Project total Construction-Related Gasoline Usage (ECORP Consulting, Inc. 2022)

### Appendix F – Paleontological Records Search (Kenneth L. Finger, Ph.D., November 26, 2021)

### Appendix G – Asbestos Inspection Report/Phase 1 Site Assessment (Bovee Environmental Management, Inc. August 3, 2020)

### Appendix H – Roadway Construction Noise Model (RCNM) (ECORP Consulting, Inc. February 28, 2022)



[www.ecorpconsulting.com](http://www.ecorpconsulting.com)

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## **APPENDIX B**

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Notice of Intent

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**NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY**

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DATE: September 16, 2022

TO: Responsible Agencies, Interested Parties, and Organizations

SUBJECT: **Bellota Weir Modification Project – San Joaquin County**

The Stockton East Water District (SEWD) is the California Environmental Quality Act (CEQA) Lead Agency for the proposed Bellota Weir Modification Project (Proposed Project). SEWD has directed the preparation of an Initial Study (IS) Mitigated Negative Declaration (MND) in compliance with CEQA.

**Project Location:** The Project site is located in San Joaquin County on the Calaveras River at the fork of Mormon Slough and the Old Calaveras River, approximately 17 miles downstream of the New Hogan Dam. The Project area is situated north of Escalon-Bellota Road between State Route 26 on the west and East Shelton Road on the southeast.

**Project Description:** The Bellota Weir Modification Project (Project or proposed Project), a continuation of the Calaveras River Anadromous Fish Protection Project and requirement of the Calaveras River Habitat Conservation Plan (CHCP), is a proposal by the Stockton East Water District (SEWD) to design, permit and install a modern fish screen and related improvements at SEWD's Bellota Intake Structure. Project components include construction of a new screened diversion intake and associated conveyance improvements, construction of "fishways" comprised of a roughened channel and fish ladder to improve upstream anadromous fish migration from Mormon Slough, and construction of a fish exclusion structure on the Old Calaveras River to prevent entrainment of juvenile salmonids. The Project has been developed collaboratively with other interested agencies, including, California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) to define a final course of action to eliminate known fish passage impediments while improving Bellota Intake Structure operational flexibility. The Project plans continue to be refined in consultation with resource agencies.

**Potentially Significant Environmental Impacts:** Potentially significant impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, and tribal cultural resources were identified in the Initial Study. All impacts would be reduced to a less than significant level with the implementation of identified mitigation measures.

**Hazardous Waste Sites:** Pursuant to Section 15087(c)(6) of the Guidelines for California Environmental Quality Act, SEWD acknowledges the non-existence of hazardous waste sites within the Project area reviewed by this Mitigated Negative Declaration (MND).

**IS/MND Document Review and Availability:** The public review and comment period for the Draft IS/MND will extend for 31 days **starting September 16, 2022 and ending October 17, 2022**. Due to the COVID-19 pandemic, printed hard copies will not be available to the public. However, the Draft IS/MND can be viewed and/or downloaded from the SEWD website: <https://sewd.net>

**NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY**

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**Comments/Questions:** Comments and/or questions regarding the IS/MND may be directed to:

Justin M. Hopkins, Assistant General Manager  
Stockton East Water District  
6767 East Main Street  
Stockton, CA 95215

or

[jhopkins@sewd.net](mailto:jhopkins@sewd.net)