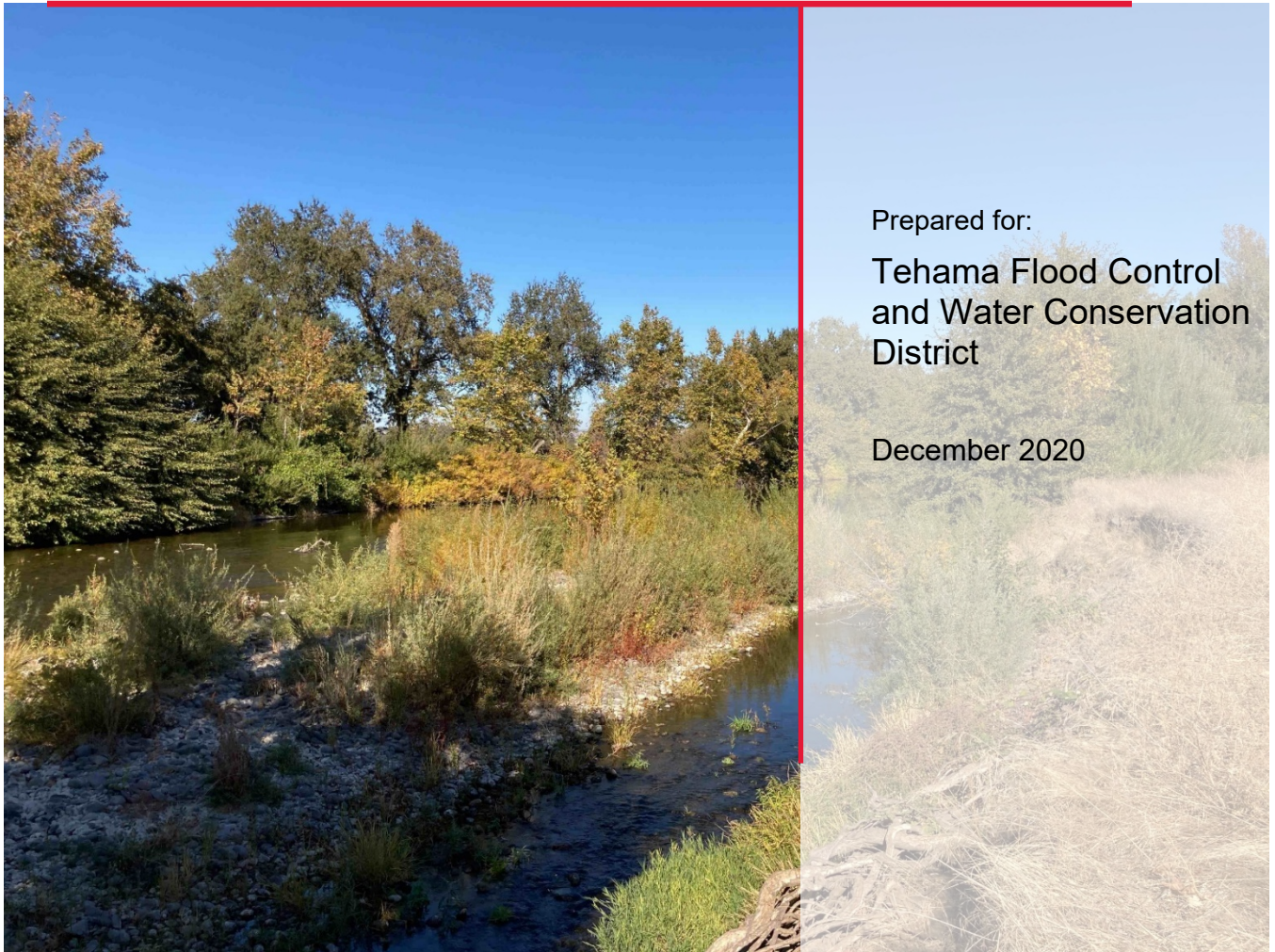


Initial Study/Proposed Mitigated Negative Declaration **Deer Creek Erosion Repair Project**



Prepared for:
Tehama Flood Control
and Water Conservation
District

December 2020

Prepared by:



Consulting
Engineers and
Scientists

Initial Study/Proposed Mitigated Negative Declaration
Deer Creek Erosion Repair Project

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December 2020

Project No. 2004785

PROPOSED MITIGATED NEGATIVE DECLARATION

Project:	Deer Creek Levee Repair Project
Lead Agency:	Tehama County Flood Control and Water Conservation District

PROJECT LOCATION

The proposed project is located along Deer Creek in Tehama County, California, near the community of Vina. The site is located approximately 2 miles east of State Route 99, near Golonka Lane. The proposed erosion repair site is located on the south bank of Deer Creek and is approximately 300 feet in length and approximately 0.71 acre.

PROJECT DESCRIPTION

High-flow conditions during the 2016/2017 winter resulted in erosion and other damage at numerous levees managed by the California Department of Water Resources and other local maintaining agencies in the area, including the Tehama County Flood Control and Water Conservation District (District). The proposed project includes conducting erosion damage repairs at the project site. Activities would include constructing levee repairs and storing vehicles, equipment, and imported materials at designated staging areas. The project includes two potential staging areas located just upstream from the erosion site on the water side of the adjacent levee within open grassland. The staging areas are approximately 0.20 and 0.16 acre in size, respectively, from the closest to the erosion site to the farthest upstream. In addition, there is an approximately 2-acre staging and turnaround area located approximately 1,400 linear feet along the levee southwest from the erosion site on disturbed land used for farm equipment storage. Construction activity would occur over an approximately 1-month period.

FINDINGS

Consistent with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, an Initial Study (IS) has been prepared to assess the proposed project's potential effects on the physical environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not have any significant adverse effects on the physical environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no impacts on agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire.
2. The proposed project would have less-than-significant impacts on aesthetics, energy, greenhouse gas emissions, noise, transportation, and utilities and service systems.
3. The proposed project would have potentially significant impacts on air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, tribal cultural resources, and mandatory findings of significance, but mitigation measures are proposed to avoid or reduce these effects to less-than-significant levels.
4. The proposed project would not 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 an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

5. The proposed project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
6. The proposed project would not have possible environmental effects that are individually limited but cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
7. The environmental effects of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly.
8. The proposed project incorporates all mitigation measures listed below and described in the IS.

MITIGATION MEASURES

The following mitigation measures will be implemented as part of the proposed project to avoid, minimize, rectify, reduce or eliminate, or compensate for potentially significant or significant environmental impacts. Implementation of these mitigation measures will reduce these impacts of the proposed project to less-than-significant levels. Mitigation measures will be implemented by the District and its construction contractor(s).

Mitigation Measure AQ-1: Implement Tehama County Air Pollution Control District (TCAPCD) Construction Best Management Practices.

The District will require its construction contractor to implement the following measures during construction:

- Maintain all construction equipment in proper tune according to manufacturer’s specifications.
- Maximize to the extent feasible, the use of diesel construction equipment meeting current California Air Resources Board certification standards for off-road heavy-duty diesel engines.
- If required by TCAPCD, all off-road heavy-duty diesel equipment greater than 50 horsepower used in project construction shall be registered with the Air Resources Board’s Diesel Off-Road Online Reporting System (DOORS) and meet all applicable standards for replacement and/or retrofit.
- If required by TCAPCD, all portable equipment used in project construction, including generators and air compressors rated over 50 brake horsepower, shall be registered in the Portable Equipment Registration Program or permitted through the TCAPCD.
- Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.

- Haul vehicles transporting soil into or out of the property shall be covered to reduce track out.
- Water shall be applied to disturbed areas a minimum of twice daily as necessary to reduce fugitive dust emissions.

Timing: During construction.

Responsibility: The District and its construction contractor(s).

Mitigation Measure BIO-1: Implement Best Management Practices to Avoid and Minimize Impacts on Special-status Species and Habitats

- Develop and implement an environmental awareness training program. This training shall be conducted by a qualified biologist and provided to all construction personnel before engaging in project-related activities. Environmental awareness training shall include descriptions of all special-status wildlife species potentially occurring in the project area, their habitats, and methods of identification, including visual aids as appropriate, and shall also describe activity specific measures required to minimize and avoid impacts.
- Retain a qualified biologist to conduct biological surveys prior to ground-disturbing activities and to provide monitoring during excavation activities. The biologist shall ensure that the project proponent implements best management practices to avoid and minimize impacts, and shall document compliance with all biological resource-related mitigation measures.
- Limit ground disturbance to the minimum area necessary. Prior to ground-disturbing activities, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.
- Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion.
- Prior to initiation of repair activities, the retained biologist will identify potential riparian habitat, shaded riverine aquatic cover, and native oaks, and mark the boundaries of these areas using temporary fencing, high-visibility flagging, or other means that are equally effective in clearly delineating the boundaries. When feasible, repair activities will be excluded from these areas. In many situations, equipment can be operated to avoid disturbing isolated riparian trees or low-height riparian scrub habitat.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status species.
- Prohibit firearms, open fires, hunting, and pets on the project site.

- All vehicles and heavy equipment will be inspected for the presence of wildlife before the start of each workday when equipment is staged overnight.
- Construction vehicles and equipment will be checked daily for leaks and will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease.
- All project-related trash items, such as wrappers, cans, bottles, and food scraps, will be collected in closed containers, removed from the repair site each day, and disposed of at an appropriate off-site location to minimize attracting wildlife to the work area.
- The amount of revetment and similar materials used for bank protection and other repair activities will be limited to the amount necessary to ensure proper flood protection system integrity and function.
- Temporary fill, construction debris, and refuse will be removed and properly disposed of following completion of repair activities.
- Habitats, including sensitive natural communities, will be restored to pre-project conditions wherever feasible.

Timing: Before, during, and after construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-2: Implement Protection Measures for the Valley Elderberry Longhorn Beetle

- All suitable elderberry shrubs (i.e., shrubs with stem diameters of at least 1 inch when measured at ground level) will be avoided if not designated for removal or trimming.
- A 20-foot buffer will be established from the dripline of any elderberry shrubs within the project limits to be avoided. These buffers will be avoided by all personnel and repair activities. Shrubs will be flagged or temporarily fenced, as needed, with guidance from the Designated Biologist and designated as biologically sensitive areas. When feasible, fencing will be placed at the buffer.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-3: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species

- Instream construction activities shall occur between July 15 and October 15 to avoid adverse impacts to Chinook salmon. Instream work could start sooner if CDFW determines that the adult spring-run Chinook salmon are no longer present based on environmental conditions and real time passage data. Instream work could also be extended if environmental conditions which would preclude juvenile steelhead and

spring-run Chinook salmon emigration or adult steelhead and late-fall-run Chinook salmon immigration are expected to persist. Instream work outside of the July 15 to October 15 work window must be approved by CDFW and NMFS with details on how take will be avoided and/or minimized.

- Instream work shall only occur for up to 12 hours per day to allow a 12-hour window of time for fish to migrate through without noise disturbance.
- Prior to beginning instream work, the excavator bucket shall be operated to “tap” the surface of the water.
- Instream operation of the excavator bucket shall be conducted slowly and deliberately to allow fish time to seek refuge outside the work area.

Timing: Before and throughout the in-water construction period.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-4: Implement Measures to Avoid, Minimize, and if Necessary, Compensate for Impacts on Critical Habitat

- Impacts on instream habitat and riparian vegetation that provide shaded riverine aquatic habitat shall be avoided to the maximum extent practicable during development of the final project footprint. Habitat to be avoided shall be clearly designated as environmentally sensitive areas, and these areas shall be avoided by all construction personnel. Impacts also shall be minimized by retaining the integrity of important critical habitat features to the maximum extent feasible.
- If permanent impacts on critical habitat cannot be adequately avoided and minimized, an appropriate and feasible mitigation plan shall be developed in consultation with NMFS. If required, compensatory mitigation may include preserving, enhancing, and/or restoring habitat along the creek (outside of the project footprint) and/or at an off-site location. Compensation also may include purchase of credits at a NMFS-approved mitigation bank.

Timing: In coordination and compliance with regulatory agencies during the permitting process.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-5: Implement Protection Measures for the Western Pond Turtle

- A qualified biologist shall conduct pre-construction surveys for western pond turtle in suitable upland and aquatic habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of 2 weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work.

- If western pond turtles are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until protective measures are implemented or it is determined that the pond turtle will not be harmed. If it is determined that the pond turtle would be harmed by continued construction activities, a qualified biologist shall move the western pond turtle to a suitable location outside of the project area.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s)

Mitigation Measure BIO-6: Conduct Pre-construction Nesting Bird Surveys During the Nesting Season

- If construction is scheduled to occur during the bird nesting season (February 1 through August 31), pre-construction nesting bird surveys shall be conducted by a qualified biologist in all suitable nesting habitats within the project area.
- Nesting surveys shall be conducted in accordance with the recommended timing, methodology, and or/protocol for each bird species.
- Surveys shall also include a 0.25-mile radius outside of the project area for Swainson’s hawk, white-tailed kite, and bald eagle, and a 500-foot radius outside of the project area for other nesting birds.
- Surveys shall be conducted not more than 5 days prior to the start of construction, or as prescribed by established survey protocols.

Timing: Before construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-7: Establish Nest Protection Buffers for Active Bird Nests

- If an active bird nest is located in the survey area, an appropriate nest protection buffer shall be established by a qualified biologist based on the species, type of construction activities, and line of sight to the work area. Under this measure, nesting birds and offspring would not be disturbed or killed, and nests and eggs would not be destroyed.
- Work shall be conducted no less than 500 feet from an active raptor nest and 100 feet from an active migratory bird nest, though buffer distances for all nesting birds may differ based on consultation with CDFW and USFWS.
- To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the qualified biologist that high-visibility material would not attract predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.

Timing: Before construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-8: Monitor Active Bird Nests Within Nest Protection Buffer

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

Timing: Before and during construction.

Responsibility: District and construction contractor(s).

Mitigation Measure BIO-9: Conduct Pre-construction Surveys for Special-status Bats

- A qualified biologist shall conduct pre-construction surveys of all trees proposed for removal for western red bat, pallid bat, and maternity roosts within 24 hours prior to the start of construction activities.
- If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-10: Implement Protective Measures during Removal of Trees with Bat Roosts

- All removal of trees with bat roosts shall be conducted between September 1 and October 30, which corresponds to a time period when bats would not be caring for non-volant young and have not yet entered torpor, or after October 30 to avoid impacts to hibernating bats (or earlier than October 30 if evening temperatures fall below 45 degrees Fahrenheit and/or more than a half inch of rainfall occurs within 24 hours).
- If a non-maternity roost is found in a tree that must be removed or trimmed between September 1 and October 30, a qualified biologist shall monitor tree removal/trimming. Tree removal/trimming shall occur over 2 consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with

cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed. Prior to tree removal/trimming, each tree shall be shaken gently and several minutes shall pass before felling trees or limbs to allow bats time to arouse and leave the tree. The biologist shall search downed vegetation for dead or injured bat species and report any dead or injured special-status bat species to CDFW.

- If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified biologist determines that the roost is no longer active.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-11: Compensate for Impacts to Waters of the United States

- If impacts to waters of the United States cannot be feasibly avoided, the District shall implement one of the following compensatory measures:
 - Pay in-lieu fees for wetlands or waters of the United States permanent impacts authorized by USACE through the in-lieu fee program of the Sacramento District of the USACE and administered by the National Fish and Wildlife Foundation, at a ratio determined in consultation with USACE, or
 - Secure waters of the United States credits at a USACE-approved mitigation bank for permanent impacts at the repair site at a ratio determined in consultation with USACE.

Timing: Before construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure CR-1: Implement Procedures for Inadvertent Discovery of Cultural Material.

- If an inadvertent discovery of buried or otherwise previously unidentified historical resources, including archaeological resources (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains), is made at any time during project-related construction activities or project planning, the District, with input from other interested parties, will develop and implement appropriate protection and avoidance measures, where feasible. If such resources are discovered during project construction, all work within a 100-foot radius of the find shall cease. Tehama County shall retain a professional archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists to assess the discovery and recommend what, if any, further treatment or investigation is necessary for the find. Culturally affiliated Native American Tribes will also be contacted concerning resources of Native American origin. Avoidance is the preferred CEQA mitigation measure for cultural resources. If avoidance is not possible, any necessary treatment/investigation shall be developed in

coordination with interested Native American Tribes providing recommendations to Tehama County and shall be completed before project activities continue in the vicinity of the find. An inadvertent discovery plan shall be developed before construction begins and shall be implemented in the event of a discovery during project construction.

Timing: Before and during project construction activities.

Responsibility: The District and its construction contractor(s).

Mitigation Measure CR-2: Avoid Potential Effects to Previously Unknown Human Remains.

- If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the District and its construction contractors will implement the procedures listed below. If human remains are identified on the project site, the following performance standards shall be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the District will immediately halt potentially damaging excavation in the area of the burial and notify the Tehama County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the District for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.9 et seq.

Upon the discovery of Native American human remains, the District will require that all construction work within 100 feet of the discovery stop, until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. Public Resources Code Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains.

If agreed to by the MLD and the landowner, the District or its authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, the District or its

authorized representative may also reinter the remains at a location not subject to further disturbance if recommendation of the MLD is rejected and mediation by the NAHC fails to provide measures acceptable to the District.

If the human remains are of historic age and are determined not to be of Native American origin, the District will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

Timing: During project construction activities.

Responsibility: The District and its construction contractor(s).

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

- Prior to initiating and during construction, the District will prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP will identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Regardless of the need for a SWPPP or SWMP, construction techniques and Best Management Practices (BMPs) will be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials. Construction techniques will include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that specify erosion and sedimentation control measures to be implemented may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, re-seeding with native species, and mulching to revegetate disturbed areas. If suitable vegetation cannot reasonably be expected to become established, non-erodible material will be used for such stabilization.

The SWPPP or SWMP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans. The SWPPP or SWMP shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP shall also identify emergency procedures for responding to spills. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment.

The BMPs presented in either document shall be clearly identified and they and all construction equipment and vehicles will be maintained in good working condition throughout the construction process. The construction contractor shall retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

The District and all contractors will abide by regulations governing hazardous materials transport included in California Code of Regulations (CCR) Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials can only be conducted under a registration issued by the California Department of Toxic Substances Control. Construction contractors shall be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations.

Timing: Before and during construction.

Responsibility: The District and its construction contractor(s).

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INITIAL STUDY

Project Information

1. Project title:	Deer Creek Levee Repair Project
2. Lead agency name and address:	Tehama County Flood Control and Water Conservation District 9380 San Benito Avenue Gerber, CA 96035
3. Contact person and phone number:	Mr. Ryan Teubert, (530) 385-1462
4. Project location:	Deer Creek, levee road near Leininger Road and the community of Vina in Tehama County
5. Project sponsor's name and address:	Same as Lead Agency
6. General plan designation:	Valley Floor Agriculture
7. Zoning:	AG-2
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	Project includes establishing staging areas and repairing erosion damage to an approximately 300-foot-long stretch of levee on the south bank of Deer Creek. Construction activity would occur over an approximately 1-month period.
9. Surrounding land uses and setting: Briefly describe the project's surroundings:	Surrounding land uses are agricultural. The nearest residence is approximately 1,500 feet from work areas.
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	The project will require approvals/permission from the California Department of Fish and Wildlife, Central Valley Regional Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service.
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun? Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.	No tribes have requested consultation.

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Abbreviations and Acronyms

BMP	best management practice
Cal/EPA	California Environmental Protection Agency
Cal/FIRE	California Department of Forestry and Fire Protection
CCR	Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CVRWQCB	Central Valley Regional Water Quality Control Board
District	Water Conservation District
DO	dissolved oxygen
DOORS	Diesel Off-Road Online Reporting System
DTSC	Department of Toxic Substances
EFH	essential fish habitat
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
HCP	Habitat Conservation Plan
IS/MND	Initial Study/proposed Mitigated Negative Declaration
MLD	Most Likely Descendant
MMRP	Monitoring and Reporting Program

NAHC	California Native American Heritage Commission
NEIC	Northeast Information Center
NCCP	Natural Community Conservation Plan
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHWM	ordinary high water mark
PG&E	Pacific Gas and Electric Company
PRC	California Public Resources Code
SLF	Sacred Lands File
SPFC	State Plan of Flood Control
SR	State Route
SRA	shaded riverine aquatic
SRFCP	Sacramento River Flood Control Project
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCAPCD	Tehama County Air Pollution Control District
TCRs	Tribal Cultural Resources
USACE	U. S. Army Corps of Engineers
USDA	U. S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Chapter 1. Introduction

The Tehama County Flood Control and Water Conservation District (District) has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines to address the potentially significant environmental impacts of the proposed Deer Creek Levee Repair Project (proposed project) near the community of Vina in Tehama County, California. The District is the lead agency under CEQA.

This document includes:

- an IS,
- a proposed MND, and
- a Notice of Availability and intent to adopt an MND for the proposed project.

After the required public review of this document is complete, the District will consider adopting the proposed MND and a Mitigation Monitoring and Reporting Program (MMRP) and will decide whether to approve the proposed project.

1.1 Purpose of the Initial Study

This document is an IS/MND prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations [CCR]). The purpose of this IS is to: (1) determine whether proposed project implementation would result in potentially significant or significant impacts on the physical environment; and (2) incorporate mitigation measures into the proposed project design, as necessary, to eliminate the proposed project's potentially significant or significant project impacts or reduce them to a less- than-significant level. An MND is prepared if the IS identified potentially significant impacts, but: (1) revisions in the proposed project plans or proposals mitigate the impacts to a point where clearly no significant impacts would occur; and (2) there is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a potentially significant or significant impact on the physical environment.

An IS presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts. An IS is neither intended nor required to include the level of detail provided in an Environmental Impact Report (EIR).

CEQA requires that all State and local government agencies consider the potentially significant and significant environmental impacts of projects they propose to carry out or over which they have discretionary authority, before implementing or approving those projects. The public agency that has the principal responsibility for carrying out or approving a proposed project is the lead agency for CEQA

compliance (State CEQA Guidelines, CCR Section 15367). The District has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this IS/MND.

If there is substantial evidence (such as the findings of an IS) that a proposed project, either individually or cumulatively, may have a significant or potentially significant impact on the physical environment, the lead agency must prepare an EIR (State CEQA Guidelines, CCR Section 15064[a]). If the IS concludes that impacts would be less than significant, or that mitigation measures committed to by the applicant (the District) would clearly reduce impacts to a less-than-significant level, a Negative Declaration or MND can be prepared.

The District has prepared this IS to evaluate the potential environmental impacts of the proposed project and has incorporated mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, an MND has been prepared for this project.

1.2 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the issues evaluated in that chapter, it was determined that:

The proposed project would result in no impacts on the following issue areas:

- agriculture and forestry resources
- land use and planning,
- mineral resources,
- population and housing,
- public services,
- recreation, and
- wildfire.

The proposed project would result in less-than-significant impacts on the following issue areas:

- aesthetics,
- energy,
- greenhouse gas emissions,
- noise,
- transportation, and
- utilities and service systems.

The proposed project would result in less-than-significant impacts *after* mitigation implementation on the following issue areas:

- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hazards and hazardous materials,
- hydrology and water quality,
- tribal cultural resources, and
- mandatory findings of significance.

1.3 Document Organization

This document is divided into the following sections:

Notice of Availability and Intent to Consider Adoption of a Proposed MND. The Notice of Availability and Intent to Consider Adoption of a Proposed MND provides notice to responsible and trustee agencies, interested parties, and organizations of the availability of this IS and of the District's intent to consider adopting an MND for the proposed project.

Proposed MND. The proposed MND, which precedes the presentation of the IS analysis in this document, briefly summarizes the proposed project, summarizes the environmental conclusions, and identifies mitigation measures that would be implemented in conjunction with the proposed project.

Initial Study. The IS is the remainder of this document and is organized into the sections identified below:

Table of Contents. This section provides the organization of the IS.

Acronyms and Other Abbreviations. This section provides acronyms and other abbreviations used in the IS.

Chapter 1, "Introduction." This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, "Project Description." This chapter describes the project location and background, project need and objectives, project characteristics, construction activities, project operations, and discretionary actions and approvals that may be required.

Chapter 3, "Environmental Checklist." This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in a beneficial impact, no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact on the physical environment in each issue area. Should any impacts be determined to be potentially significant or significant after mitigation is applied, an EIR would be required. For this proposed project, however, mitigation measures have been incorporated into the project as needed to reduce all potentially significant and significant impacts to less-than-significant levels.

Chapter 4, "References Cited." This chapter lists the references used to prepare this IS/MND.

Chapter 5, "Report Preparers." This chapter identifies report preparers who contributed to the preparation of this document.

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Chapter 2. Project Description

This chapter describes the District’s proposed erosion repairs on the south bank of Deer Creek (proposed project). The project location and background are described along with the need for the proposed project, project objectives, project characteristics, construction activities, project operations and maintenance, and discretionary actions and approvals that may be required.

2.1 Project Location

The proposed project is located along Deer Creek, in Tehama County, California, near the community of Vina. The site is located approximately 2 miles east of State Route (SR) 99, near Golonka Lane. **Figure 1** provides an overview of the project location.

2.2 Project Background, Need, Purpose, and Objectives

High-flow conditions during the 2016/2017 winter resulted in erosion and other damage at numerous levees managed by the California Department of Water Resources (DWR) and other local maintaining agencies, including the District. The State Plan of Flood Control (SPFC) levees at multiple sites were damaged to such an extent that the flood control performance was compromised, presenting a potential public safety risk, which could result in flooding, property damage, or loss of life within the protected area during a future high-flow event. The project need is apparent as erosion and other damage is compromising the integrity of the levee and flood control performance at this site.

The project purpose is to repair the eroded section of levee and thereby reduce the probability of future flood risks at the project site. The project objectives are to (1) repair the erosion damage at the project site, and (2) conduct necessary repairs as soon as possible.

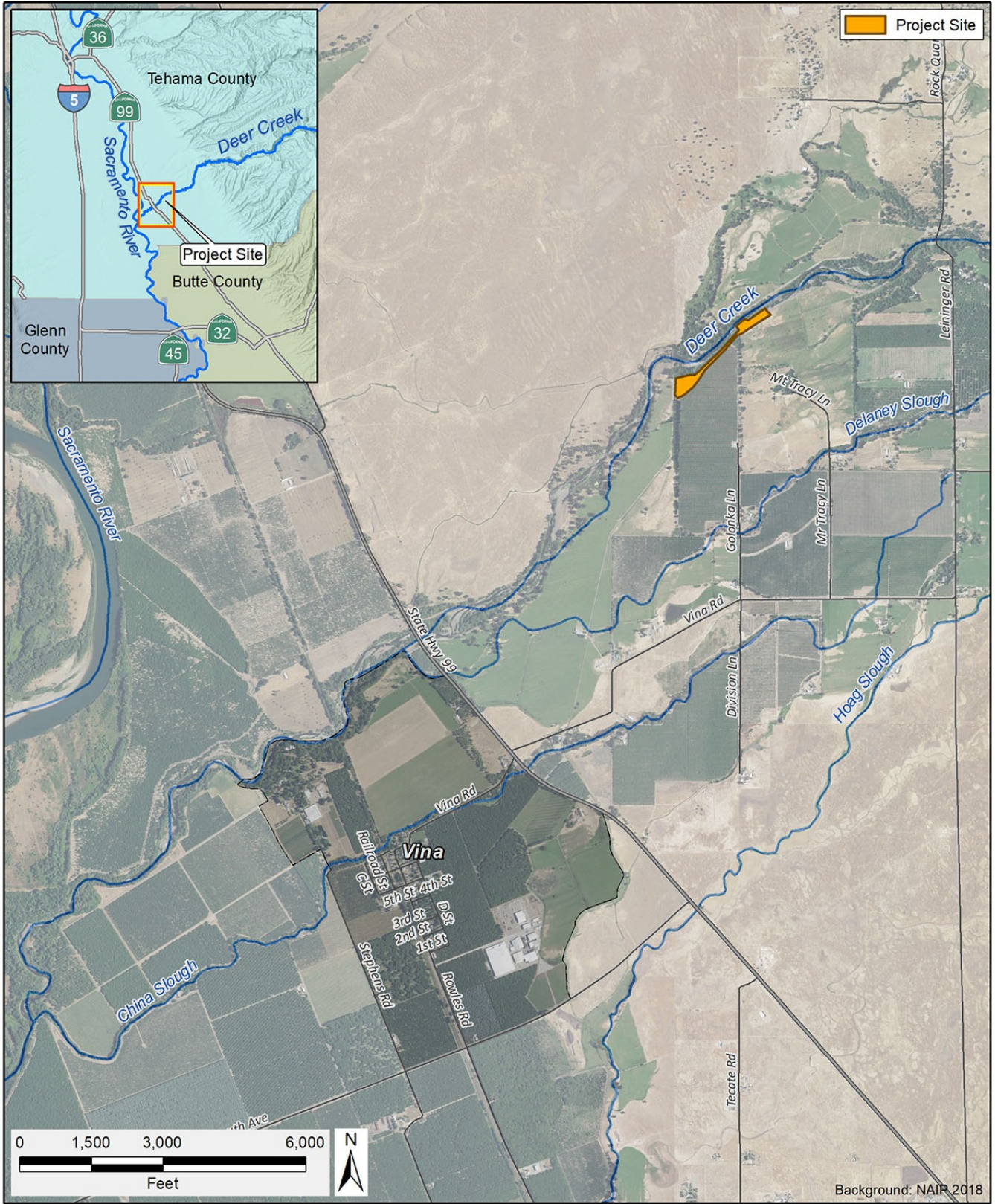
2.3 Proposed Project

The proposed project includes conducting erosion damage repairs at the project site. Activities would include constructing levee repairs and storing vehicles, equipment, and imported materials at designated staging areas.

Project Features

The proposed erosion repair site is located on the south (left) bank of Deer Creek and is approximately 300 feet in length and a total of 0.71-acre. The project also includes two potential staging areas located just upstream from the erosion site on the water side of the adjacent levee within open grassland. The staging areas are approximately 0.20 and 0.16 acre in size, respectively, from the closest to the erosion site to the farthest upstream. In addition, there is an approximately 2-acre staging and turnaround area located approximately 1,400 linear feet along the levee southwest from the erosion site. This area is an existing disturbed area used for farm equipment storage. **Figure 2** illustrates the area of the proposed repair, along with the proposed access and staging areas.

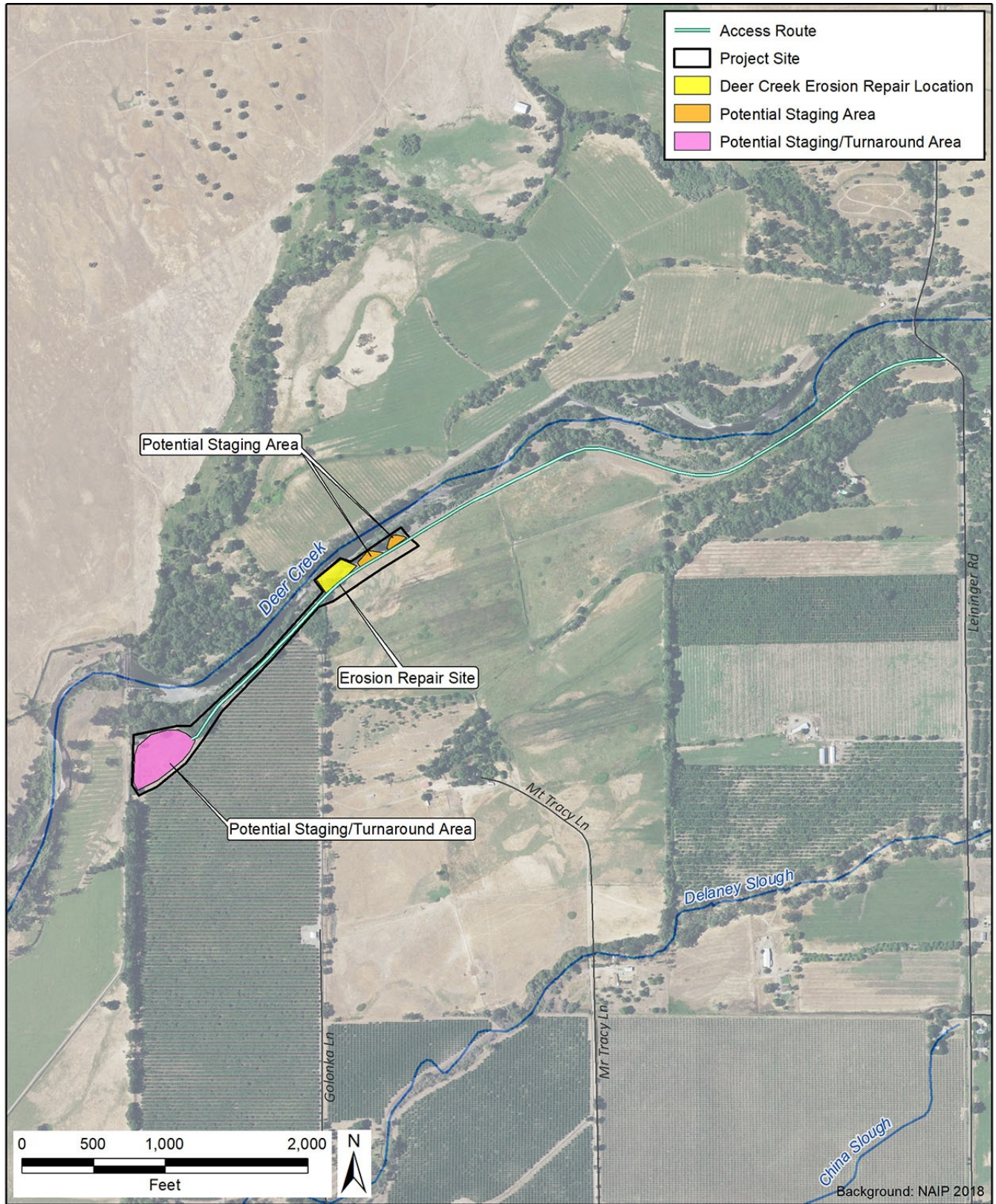
Figure 1. Project Location



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18Dec2020 RS

Source: GEI Consultants, Inc., 2020

Figure 2. Project Features



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18Dec2020 SI/RS

Source: GEI Consultants, Inc., 2020

2.4 Proposed Construction Activities

The streambank erosion repair would include the following construction activities:

- Clear vegetation in the erosion repair area with an excavator including annual grasses and forbs, brush, and dead or dying wood to the extent necessary to complete the work. Trees that are not leaning or determined not to compromise the levee structure would be saved to the extent possible. Stumps and large roots would be left to the extent that they do not compromise bank stability.
- Excavate and remove all soils and substrate disturbed by the erosion including unstable zones and loose material. In addition, excavate soils, substrate, and loose materials in the transition zones adjacent to or within the bank failure with an excavator and a rubber-tired loader.
- Excavate and shape the creek bank (slope of the erosion repair site) with an excavator. This may include some excavation below the water line.
- Excavate a 1-foot deep keyway trench at the bottom of the slope below the water line as the bottom limit of rock placement.
- Place geotextile fabric on cleaned and shaped surface of the creek bank to a maximum of 5 feet below water surface at time of construction in advance of placing rock.
- Place 6-inch minus backing rock over the geotextile fabric to create a 2H:1V slope.
- Place Caltrans Class 5 riprap above the backing rock layer to match the 2H:1V slope. Soil would be interspersed within the void spaces between the riprap. Riprap and soil would be placed with an excavator and a rubber-tired loader.
- Broadcast seed along the upper bench and disturbed areas with native erosion control seed mix.
- If necessary, place and compact aggregate base up to a minimum 6-inch thickness to rebuild the levee road with a rubber-tired grader.
- Identify tree and vegetation protection and necessary avoidance for trees not in the immediate work areas. Install protective fencing between work areas and trees and vegetation to remain.
- Trim trees to be protected in place for construction equipment access, including along the haul route, with pole pruners and/or a chainsaw.
- If necessary, install temporary fencing at the appropriate setback to protect elderberry shrubs located adjacent to the repair site and staging area.
- Operations and maintenance activities would be unchanged from existing conditions.

Table 1 summarizes repair characteristics such as approximate material volumes and the area that would be affected by the project.

Table 1. Repair Characteristics

Repair Length	300 linear feet
Area of staging	2.36 acres (All three areas roughly combined)
Area of repair below Ordinary High-Water Mark (OHWM)	0.08 acre
Area of repair above OHWM	0.04 acre
Estimated excavation, above OHWM	0 cubic yards
Estimated excavation, below OHWM	45 cubic yards
Aggregate base, above OHWM	300 tons (Supplement to existing aggregate base on levee crown)
6" Minus (Backing Rock), above OHWM	100 cubic yards
6" Minus (Backing Rock), below OHWM	225 cubic yards
Caltrans Class 5 riprap, above OHWM	150 cubic yards
Caltrans Class 5 Riprap, below OHWM	225 cubic yards
Soil Fill (to fill void space between Riprap), above OHWM	35 cubic yards

Source: KSN, Inc., 2020

2.5 Construction Sequencing

Construction activities are anticipated to take place during late summer or early fall, 2021. The proposed erosion repair would require approximately 1 month of active construction. All construction work would take place during daylight hours, and no nighttime lighting would be required. The maximum length of the workday would be 6 a.m. to 5 p.m., depending on allowable daylight.

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

- Water truck (1)
- Excavator (1)
- Rubber-tired loader (1)
- Rubber-tired grader (1)
- Pick-up truck (4)

2.6 Regulatory Requirements, Permits, and Approvals

As the lead agency under CEQA, the District has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and all other applicable regulations are met. Other permitting agencies that may have permitting approval or review authority over portions of the proposed project are listed in **Table 2**

Table 2. Required Permits and Approvals Anticipated for the Proposed Project.

Permit	Permitting Authority	Affected Elements
Federal Permits/Approvals		
Clean Water Act Section 404 Dredge and Fill Permit	United States Army Corps of Engineers	Permitted activities that require dredging or the placement of fill within Waters of the United States

Federal Endangered Species Act compliance	United States Fish and Wildlife Service	Permitted activities affecting Federally listed special-status species
Federal Endangered Species Act compliance	National Marine Fisheries Service	Permitted activities affecting Federally listed special-status marine or anadromous fish species
National Historic Preservation Act Section 106 Compliance	Historic Preservation Office	Permitted activities on facilities that would affect cultural and historic resources listed or eligible for inclusion in the National Register of Historic Places
State and Local Permits/Approvals		
Clean Water Act Section 401 Water Quality Certification	Central Valley Regional Water Quality Control Board	Permitted activities within jurisdictional Waters of the United States requiring a Section 404 permit
Porter-Cologne Water Quality Control Act Waste Discharge Requirements (WDR)	Central Valley Regional Water Quality Control Board	Permitted activities on facilities that would be constructed in Waters of the United States
National Pollutant Discharge Elimination System General Construction Activity Permit	Central Valley Regional Water Quality Control Board	Permitted activities on facilities where runoff would discharge into surface water
California Endangered Species Act compliance	California Department of Fish and Wildlife	Permitted activities affecting State-listed special-status species
Section 1601 et seq. Streambed Alteration Agreement	California Department of Fish and Wildlife	Permitted activities that would substantially change or use material from the bed, channel, or bank of any river, stream, or lake

Source: GEI Consultants, Inc. 2020

Chapter 3. Environmental Checklist

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

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Signature

Date

Print Name

Title

Agency

Evaluation of Environmental Impacts

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Operations and maintenance impacts of the proposed project are routine, minimal, and essentially the same as current operations and maintenance of the existing facilities. There is no potential for a significant impact to any resource category from project operations and maintenance of the existing and proposed facilities.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required. "Beneficial impact" is also identified where appropriate to provide full disclosure of any benefits from implementing the proposed project.
- 4) "Less-than-Significant Impact with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063[c][3][D]). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

- c) Mitigation Measures. For effects that are a "Less-than-Significant Impact with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
- a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

Significance thresholds are identified for certain resources, but others are not explicitly identified because there is clearly no impact or the checklist question itself serves as the significance threshold.

3.1 Aesthetics

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

3.1.1 Thresholds of Significance

The thresholds of significance for aesthetics are based on the Appendix G checklist questions.

3.1.2 Environmental Setting

The project site is located along an existing SPFC levee surrounded by private land. Adjacent land is rural agriculture. The project site is not located within a designated scenic vista, and there are no State- or County designated scenic highways located with views of the project site (Tehama County 2009). In addition, there are no developed recreational sites or trails with views of the site.

3.1.3 Discussion

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

No Impact. The project site is not located within a designated scenic vista.

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

No Impact. The project site is not visible from State- or County designated scenic highways.

- 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?**

Less-than-Significant Impact. The proposed repair and staging areas are sparsely covered with ruderal vegetation. Temporary construction disturbance at the repair site and staging areas would be limited to a total area of less than 4 acres, and disturbed areas would be hydroseeded. The proposed project would not degrade the existing visual character or quality of the area, and impacts related to visual character would be less than significant.

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

No impact. The proposed repair would use soil and rock material and would not include placement of any reflective materials. No lighting would be installed as part of the project.

3.2 Agriculture and Forestry Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
II. AGRICULTURE AND FORESTRY RESOURCES.					
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>					
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?				No impact	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				No impact	
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				No impact	
d) Result in the loss of forest land or conversion of forest land to non-forest use?				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?				No impact	

3.2.1 Thresholds of Significance

The thresholds of significance for agriculture and forestry resources are based on the Appendix G checklist questions.

3.2.2 Environmental Setting

The erosion repair site and staging areas are designated by the Farmland Mapping and Monitoring Program as grazing land. Adjacent lands are designated as prime farmland, unique farmland, and farmland of local importance (California Department of Conservation 2016). The project includes approximately 0.2-acre of valley foothill riparian habitat which may qualify as forest land.

3.2.3 Discussion

- 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?**

No impact. The project includes erosion repair to maintain the flood infrastructure protecting agricultural lands. Access to the project site would be via existing paved public roads and the levee crown road. Staging activities would occur in areas that are sparsely covered with ruderal vegetation. Disturbed areas at the levee repair site would be restored following construction. The project would not change the footprint of the flood infrastructure, and there would be no impact on Farmland.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No impact. The project includes erosion repair to maintain the flood infrastructure protecting agricultural lands. Access to the project site would be via existing paved public roads and the levee crown road. Staging activities would occur in areas that are sparsely covered with ruderal vegetation. Disturbed areas at the levee repair site would be restored following construction. The project would not change the footprint of the flood infrastructure, and there would be no impact on zoning or Williamson Act contracts.

- 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 PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

No impact. Although there is riparian forest habitat along the banks of Deer Creek and adjacent to the project site, the project activities would not remove any mature trees or substantial amounts of riparian vegetation.

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

No impact. Although there is riparian forest habitat along the banks of Deer Creek and adjacent to the project site, the project activities would not remove any mature trees or substantial amounts of riparian vegetation.

- 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?**

No impact. The project includes erosion repair and would not include any changes to the environment affecting agricultural uses or forest land.

3.3 Air Quality

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
III. AIR QUALITY.					
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the project:					
f) Conflict with or obstruct implementation of the applicable air quality plan?			Less-than-significant impact		
g) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?		Less-than-significant impact with mitigation incorporated			
h) Expose sensitive receptors to substantial pollutant concentrations?			Less-than-significant impact		
i) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			Less-than-significant impact		

3.3.1 Thresholds of Significance

The Tehama County Air Pollution Control District (TCAPCD) has not established quantitative thresholds of significance for the purposes of CEQA with respect to short-term construction emissions of criteria air pollutant or precursor emissions. Instead, the agency emphasizes control measures. The thresholds of significance for air quality are based on the Appendix G checklist questions.

3.3.2 Environmental Setting

The project site is located within the jurisdiction of the TCAPCD. Particulate matter and ozone are the air pollutants of greatest concern in Tehama County. Particulate matter consists of fine mineral, metal, soot, smoke, and dust particles suspended in the air. For health reasons, inhaled particulate matter less than 10 microns in diameter (PM₁₀) pose the greatest concern, because these particles can lodge in the most sensitive areas of the lungs and cause respiratory or other health problems. Tehama County is designated as a non-attainment area for PM₁₀ by State standards. Non-attainment means that PM₁₀ concentrations violated ambient air quality standards within the past 3 years. Tehama County is designated unclassified for PM₁₀ by Federal standards due to insufficient data. Construction equipment can release large amounts of particulate matter into the atmosphere in a relatively short period of time.

Ozone is an invisible pollutant formed by chemical reactions involving nitrogen oxides, reactive hydrocarbons such as diesel, and gasoline emissions in the presence of sunlight. It is a powerful respiratory irritant that can cause coughing, shortness of breath, headaches, fatigue, and lung damage,

especially among sensitive people. Tehama County is designated as non-attainment for ozone by State standards.

For the purposes of CEQA, sensitive receptors include residences, educational facilities, daycare centers, and health care facilities. The project site is in a rural area. The only sensitive receptors are residences, and the nearest residence is located approximately 1,500 feet southeast of the project site.

3.3.3 Discussion

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

Less-than-significant impact. Constructing the project would include the use of large construction equipment including a loader, excavator, and water truck. On-road vehicles would also be used to transport workers and materials to the project site. All equipment would be operated under current California Air Regulations as enforced by TCAPCD. The project's air emissions would be temporary, and would be limited due to the short duration of construction (approximately 1 month) and the small amount of heavy equipment and on-road vehicles that would be used (a water truck, excavator, loader, grader, and four pick-up trucks). As a result, the project's direct and indirect impacts on air quality are not anticipated to conflict with or obstruct implementation of the Tehama County Air Quality Plan or any State Air Quality Plans. This impact would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?

Less-than-significant impact with mitigation. Constructing the project could temporarily affect ambient air quality because operating construction vehicles and equipment would generate criteria pollutant emissions, including PM₁₀ and ozone precursors. Transporting rock and soil materials to the repair site would also generate criteria pollutant emissions. Fugitive dust emissions from ground-disturbing activities and driving on unpaved roads would also contribute to increases of PM₁₀. Tehama County is in nonattainment for these pollutants by State standards.

Construction-related emissions would be temporary and would not be considered a cumulatively considerable incremental contribution to the existing significant cumulative impact of pollutant concentrations in Tehama County. Consequently, this impact is a less-than-significant impact. Implementing the emission and dust control measures included in Mitigation Measure AQ-1, which includes best management practices recommended by TCAPCD, would be implemented to further reduce potential air quality impacts by assuring that the use of fueled equipment in connection with project construction would not generate excessive amounts of particulate matter in the form of dust or equipment exhaust. Operations and maintenance activities would be unchanged from existing conditions.

Mitigation Measure AQ-1: Implement Tehama County Air Pollution Control District (TCAPCD) Construction Best Management Practices.

The District will require its construction contractor to implement the following measures during construction:

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize to the extent feasible, the use of diesel construction equipment meeting current California Air Resources Board certification standards for off-road heavy-duty diesel engines.
- If required by TCAPCD, all off-road heavy-duty diesel equipment greater than 50 horsepower used in project construction shall be registered with the Air Resources Board's Diesel Off-Road Online Reporting System (DOORS) and meet all applicable standards for replacement and/or retrofit.
- If required by TCAPCD, all portable equipment used in project construction, including generators and air compressors rated over 50 brake horsepower, shall be registered in the Portable Equipment Registration Program or permitted through the TCAPCD.
- Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered to reduce track out.
- Water shall be applied to disturbed areas a minimum of twice daily as necessary to reduce fugitive dust emissions.

Timing: During construction

Responsibility: The District and its construction contractor(s)

c), d) Expose sensitive receptors to substantial pollutant concentrations or result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-significant impact. Diesel-powered construction equipment can generate diesel particulate matter, which is known to be a toxic air contaminant. This equipment's emissions include odors that may be considered objectionable. Diesel-powered equipment would be used during construction, but construction would be temporary and of a short duration (approximately 1 month) and would occur in a rural area more than 1,500 feet from the nearest sensitive receptor. Given the short duration of construction and the distance to sensitive receptors, equipment and vehicle emissions would not expose sensitive receptors to substantial pollutant concentrations, and emissions would not significantly affect a substantial number of people, resulting in a less-than-significant impact.

3.4 Biological Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
IV. BIOLOGICAL RESOURCES.					
Would the project:					
j) 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"/>	<input type="checkbox"/>
k) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) 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"/>	<input type="checkbox"/>
m) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) 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"/>	<input type="checkbox"/>
o) 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"/>	<input type="checkbox"/>

3.4.1 Thresholds of Significance

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines as amended. These thresholds, and the impact analysis that follows, also take into consideration the significance of an action in terms of its context and its intensity (severity) as required under the National Environmental Policy Act (40 CFR 1508.27). The impacts under consideration were determined to result in a significant impact related to biological resources if they would do any of the following:

- have a substantial adverse impact, 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 (CDFW) or U.S. Fish and Wildlife Service (USFWS);

- have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse impact on State or Federally protected wetlands through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of nursery sites by native wildlife;
- conflict with any adopted local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP; or
- have the potential to degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

3.4.2 Environmental Setting

The description of the environmental setting for biological resources is based on data collected during a wetland delineation field survey conducted by GEI biologists on November 5, 2020, and searches of the following:

- CDFW's California Natural Diversity Database (CNDDDB) 1 for special-status plant and wildlife species documented on the Gerber, Los Molinos, Acorn Hollow, Corning, Vina, Richardson Springs NW, Kirkwood, Foster Island, and Nord U.S. Geological Survey (USGS) 7.5-minute quadrangles (CDFW 2020)
- USFWS Information, Planning, and Conservation System resource list for potential threatened or endangered species, designated critical habitat, and migratory birds (USFWS 2020)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for special-status plants documented on the Gerber, Los Molinos, Acorn Hollow, Corning, Vina, Richardson Springs NW, Kirkwood, Foster Island, and Nord USGS 7.5-minute quadrangles (CNPS 2020)

The study area for biological resources includes the repair site, staging and laydown areas, and immediately adjacent areas. The proposed repair site consists of the following habitats:

- **Annual Grassland.** Annual grassland habitat in the project site, totaling 2.6 acres, is located on levee slopes that are subject to annual vegetation maintenance. Annual grassland habitats are predominantly non-native species, including ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), slender oat (*Avena barbata*), medusahead (*Elymus caput medusae*), and lesser amounts of Italian ryegrass (*Festuca perennis*) and rattail sixweeks grass (*Festuca myuros*). Non-

native forbs are also common in this habitat, including black mustard (*Brassica nigra*), turkey mullein (*Croton setiger*), yellow star thistle (*Centaurea solstitialis*), tumbleweed (*Amaranthus albus*), field hedge parsley (*Torilis arvensis*), and wild radish (*Raphanus sativus*).

- **Riverine.** Deer Creek is a perennial stream with variable widths and a variable flow regime. Along its banks (i.e., often at, or below the ordinary high water mark (OHWM)), is a narrow corridor of riparian vegetation, which is described below.
- **Developed.** Developed portions of the project site, totaling 0.4 acre, are associated with road surfaces, which include the gravel road along the levee crown and access ramps.
- **Valley Foothill Riparian.** Valley foothill riparian habitat, totaling 0.2 acre, occurs primarily on the waterside levee slope. Although trees are infrequent within the actual project boundaries of the erosion site and staging areas, there is a diverse assemblage of riparian trees, including white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), California sycamore (*Platanus racemosa*), and a scattering of Fremont's cottonwood (*Populus fremontii*) and valley oak (*Quercus lobata*). Within the stream channel, other species occur both slightly above and below the OHWM, including arroyo willow (*Salix lasiopeis*), narrowleaf willow (*Salix. exigua*), and sandbar willow (*Salix exigua* var. *hindsiana*). Mugwort (*Artemisia douglasiana*) and torrent sedge (*Carex nudata*) are prevalent along the lower slope elevations.

Immediately adjacent to the project site, valley foothill riparian habitat borders the banks and floodplains adjacent to the OHWM while valley oak woodland habitat often occurs beyond the immediate floodplain and is dominated by valley oaks and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Riparian habitat is designated by CDFW as a sensitive natural community and serves as shaded riverine aquatic (SRA) habitat in the vicinity of the repair site. Riverine habitat at the site is perennial open water.

The habitat types in the study area provide potential suitable habitat for numerous species, including special-status species. Special-status species include those species Federally or State-listed as endangered, threatened, or candidate; State-listed as species of special concern or fully protected species; or ranked by the CNPS as a rare plant. The likelihood of occurrence for each species was determined by the availability of suitable habitat within or adjacent to the project site and proximity to known occurrences. **Table 3** lists the special-status species identified during database queries and website searches (CDFW 2020; CNPS 2020; USFWS 2020) and analyzed for their potential to occur within the study area. The project area falls within designated critical habitat for both Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley steelhead (*Oncorhynchus mykiss* ssp. *irideus*). The project area also falls within designated essential fish habitat (EFH) for Central Valley spring-run and fall/late fall-run Chinook salmon (*O. tshawytscha*). Species with a low potential for occurrence are not further evaluated in this Initial Study.

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
Plants			
adobe-lily <i>Fritillaria pluriflora</i>	-/-1B.2	Chaparral, cismontane woodland, valley and foothill grassland, often adobe. Elevation ranges from 200 to 2,310 feet. Blooms February to April.	Low. The Tuscan loam soils present in the southwestern portion of the study area provide low-quality habitat for this species.
Ahart's paronychia <i>Paronychia ahartii</i>	-/-1B.1	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation ranges from 100 to 1,670 feet. Blooms February to June.	Absent. There are no vernal pools in the study area.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	-\\1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools. Elevation ranges from 15 to 5,700 feet. Blooms April to June.	Absent. There are no vernal pools in the study area.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	-/E/1B.2	Marshes and swamps (lake margins), vernal pools. Elevation ranges from 30 to 7,790 feet. Blooms April to August.	Absent. There are no vernal pools in the study area.
Butte County meadowfoam <i>Limnanthes floccosa</i> ssp. <i>californica</i>	E/E/1B.1	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 150 to 3,050 feet. Blooms March to May.	Absent. There are no vernal pools or mesic grasslands in the study area.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	-/-1B.1	Marshes and swamps (coastal salt), playas, vernal pools. Elevation ranges from 0 to 4,005 feet. Blooms February to June.	Absent. There are no vernal pools or mesic grasslands in the study area.
dwarf downingia <i>Downingia pusilla</i>	-/-2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1,460 feet. Blooms March to May.	Absent. There are no vernal pools or seasonal wetlands in the study area.
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	-/-1B.1	Meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats). Elevation ranges from 6 to 245 feet. Blooms April to May.	Absent. There are no vernal pools in the study area.
Greene's tuctoria <i>Tuctoria greenei</i>	E/-1B.1	Vernal pools. Elevation ranges from 100 to 3,510 feet. Blooms May to July (occasionally September).	Absent. There are no vernal pools in the study area. No designated critical habitat is within the study area.
hairy Orcutt grass <i>Orcuttia pilosa</i>	E/E/1B.1	Vernal pools. Elevation ranges from 150 to 660 feet. Blooms May to September.	Absent. There are no vernal pools in the study area. No designated critical habitat is within the study area.
Hoover's spurge <i>Euphorbia hooveri</i>	T/-1B.2	Vernal pools. Elevation ranges from 80 to 820 feet. Blooms July to September (occasionally	Absent. There are no vernal pools in the study area. No designated critical habitat is

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
		October).	within the study area.
legenere <i>Legenere limosa</i>	-/-1B.1	Vernal pools. Elevation ranges from 0 to 2,880 feet. Blooms April to June.	Absent. There are no vernal pools in the study area.
pink creamsacs <i>Castilleja rubicundula</i> <i>var. rubicundula</i>	-/-1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; serpentine soils. Elevation ranges from 65 to 2,985 feet. Blooms April to June.	Absent. Suitable habitat, specifically serpentine soils, does not occur in the study area.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	-/-1B.2	Marshes and swamps (assorted shallow freshwater), and streams with muddy banks. Elevation ranges from 0 to 2,135 feet. Blooms May to October (sometimes November).	Absent. Suitable habitat does not occur in the study area.
silky cryptantha <i>Cryptantha crinita</i>	-/-1B.2	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, valley and foothill grassland in gravelly streambeds. Elevation ranges from 200 to 3,985 feet. Blooms April to May.	Absent. The gravelly streambeds present in the study area are situated within the perennial stream below the OHWM and do not provide the seasonal hydrology that typically supports this species. The study area is outside the elevation range of this species.
slender Orcutt grass <i>Orcuttia tenuis</i>	T/E/1B.1	Vernal pools. Elevation ranges from 110 to 5,775 feet. Blooms May to September (sometimes October).	Absent. There are no vernal pools in the study area. No designated critical habitat is within the study area.
Stony Creek spurge <i>Euphorbia ocellata</i> <i>ssp. rattanii</i>	-/-1B.2	Chaparral, riparian scrub (streambank), valley and foothill grassland (sandy gravel riverbed of intermittent streams). Elevation ranges from 210 to 2,625 feet. Blooms May to October.	Low. The gravelly streambeds present in the Project area situated within the perennial stream (below the OHWM) and the annual grassland present in the Project area provides low-quality habitat to support this species.
white-stemmed clarkia <i>Clarkia gracilis</i> <i>ssp. albicaulis</i>	-/-1B.2	Chaparral, cismontane woodland/sometimes serpentine. Elevation ranges from 800 to 3,560 feet. Blooms May to July.	Absent. The study area is outside this species' elevational range.
Invertebrates			

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/-/-	Vernal pools and wetlands in valley and foothill grasslands. Large, turbid pools formed by old braided alluvium. Endemic to grasslands of the northern two-thirds of the Central Valley.	Absent. Vernal pools are not present within the study area. No designated critical habitat is within the study area.
Crotch bumblebee <i>Bombus crotchii</i>	-/CE/-	Grassland and scrub. Nests underground, often in abandoned rodent dens. Ranges from southern to central California, with occasional records in the northern portion of the state.	Low. The study area supports suitable habitat for this species. Uncommon, and possibly extirpated, in the northern portion of its range (Hatfield et al. 2015).
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/-/-	Valley and foothill grassland vernal pools and wetlands. Found in small clear-water sandstone depressions, grass swales, earth slumps, or basalt depression pools.	Absent. Vernal pools are not present within the study area. No designated critical habitat is within the study area.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/-/-	Occurs only in the Central Valley in close association with the blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Spends most of its life in the larval stage, where it lives within the stems of the elderberry plant. Adults emerge from the stems late March–June.	Moderate. This species' host plant, the blue elderberry, occurs adjacent to the study area, but project activities may occur within 20 feet of these shrubs. No designated critical habitat is within the study area.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/-/-	Valley and foothill grasslands, vernal pools, and wetlands. Inhabits vernal pools and swales with clear to highly turbid water. Found in pools that are wet long enough to support fish species.	Absent. Vernal pools are not present within the study area. No designated critical habitat is within the study area.
Fish			
Delta smelt <i>Hypomesus transpacificus</i>	T/E/-	Tidal areas from fresh water up to 18 ppt, but primarily near and upstream of the brackish zone where bottom salinity is approximately 2 ppt. Spawning occurs in tidal areas, most commonly upstream of salinity at 2 ppt. High turbidity levels (e.g. >10 Nephelometric Turbidity units) and moderate temperatures (<25°Centigrade) are required for all life stages.	Absent. Study area is outside of the species' extant range. No designated critical habitat is within the study area.

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
Chinook salmon - Central Valley fall/late-fall-run ESU <i>Oncorhynchus tshawytscha</i>	-/SSC/-	Adults typically migrate upstream into Deer Creek from October through February to spawn in a cool, clear, well-oxygenated section of Deer Creek. Juveniles typically rear and migrate out of Deer Creek by mid-June.	Present. Populations of fall/late-fall run are known to occur in Deer Creek.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	T/T/-	Adults enter the Sacramento River from late March through September and migrate upstream through the project area to spawn in a cool, clear, well-oxygenated upstream section of Deer Creek from August through early October. Juveniles out-migrate soon after emergence as young-of-the-year (February–June) or remain in freshwater and out-migrate as yearlings (October–March) (Moyle et al. 2017).	Present. Deer Creek supports a wild population of spring-run Chinook salmon.
Chinook salmon - Sacramento River winter-run ESU <i>Oncorhynchus tshawytscha</i>	E/E/-	Adults migrate upstream during winter/spring and spawn in Battle Creek and the mainstem Sacramento River (near Redding) from April through August. Juveniles begin moving downstream as early as mid-July through March (Moyle et al. 2017).	Low. This species may use lower reaches of Deer Creek for non-natal rearing, but spawning is restricted to the Sacramento River mainstem.
Pacific lamprey <i>Entosphenus tridentatus</i>	-/SSC/-	Adults typically migrate upstream and spawn between March and July in gravel-bottomed streams in low gradient riffle habitat. Larvae (ammocoetes) drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrate for the next 3-7 years (Goodman and Reid 2012).	Present. A population of lamprey is known to occur in Deer Creek.
steelhead - Central Valley DPS <i>Oncorhynchus mykiss ssp. irideus</i>	T/-/-	Adults migrate upstream into Deer Creek from October through February and spawn December through April. Preferred spawning habitat is in cool to cold perennial streams with high dissolved oxygen levels and fast-flowing water. Juveniles typically out-migrate in the spring and early summer as 1-year-old fish.	Present. A population of steelhead is known to occur in Deer Creek.
Reptiles and Amphibians			

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
California red-legged frog <i>Rana draytonii</i>	T/SSC/-	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation	Low. This species was likely extirpated from the valley floor before 1960 (USFWS 1996). No designated critical habitat is within the study area.
foothill yellow-legged frog <i>Rana boylei</i>	-/T/-	Shallow streams and riffles with rocky substrate, and open sunny banks and gravel bars, along forests, chaparral, and woodlands.	Low. This species is known to occur approximately 20 miles upstream of the study area. While lower Deer Creek provides some suitable habitat elements, the study area is likely unsuitable for breeding.
giant garter snake <i>Thamnophis gigas</i>	T/T/-	Endemic to the marshes and swamps, riparian scrub, and wetland habitats of the Central Valley with emergent, herbaceous vegetation. Prefers freshwater marshes and low-gradient streams, but also uses drainage canals and irrigation ditches. Occupies upland habitat with grassy banks and openings in waterside vegetation for basking.	Absent. The study area is well outside the species known range. Additionally, habitat linkages between the study area and the known species range are absent. Critical habitat has not been designated for this species.
western pond turtle <i>Emys marmorata</i>	-/SSC/-	Uses ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	High. Deer Creek provides suitable aquatic habitat for this species.
western spadefoot <i>Spea hammondi</i>	-/SSC/-	Occurs primarily in grasslands, but can be found in woodlands, scrublands, and other habitats. Aquatic breeding occurs in shallow temporary pools formed by winter rains. Most of nonbreeding period spent underground in burrows.	Absent. Vernal pools are not present within the study area.
Birds			
bald eagle <i>Haliaeetus leucocephalus</i>	D/E/-	Large bodies of water or flowing streams with abundant fish and riparian trees for perching and nesting. Breeds February through July, with peak activity from March to June.	Moderate. The study area is not within the known elevational nesting range of this species. Bald eagles have been observed in riparian areas in the vicinity of

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
			the study area. This species may forage there.
bank swallow <i>Riparia riparia</i>	-/T/-	Nesting colonies only occur in vertical banks or bluffs of friable soils suitable for burrowing by these small birds. Nests throughout California.	Low. Potential nesting habitat within the study area is poor and very limited. Extant nest colonies in the region are almost exclusively along the Sacramento River.
burrowing owl <i>Athene cunicularia</i>	-/SSC/-	Prefers open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Suitable habitat is characterized by burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation for foraging. In agricultural environments, burrowing owls often nest along roadsides and water conveyance structures. Nests and roost burrows are commonly dug by ground squirrels.	Moderate. Annual grasslands provide potentially suitable habitat for this species.
least Bell's vireo <i>Vireo bellii pusillus</i>	E/E/-	Structurally diverse woodlands along watercourses, including cottonwood-willow forests, oak woodlands, and mule fat scrub.	Absent. Although riparian habitat within the study area may provide suitable nesting habitat, this species is considered to be extirpated from the region.
Swainson's hawk <i>Buteo swainsoni</i>	-/T/-	Nests in riparian areas. Forages in grasslands with scattered trees, juniper sage flats, riparian areas, savannahs, and agricultural or ranch habitats.	Moderate. Riparian areas within 100 feet of the project features provide suitable nesting habitat, and the study area supports suitable foraging habitat.
tricolored blackbird <i>Agelaius tricolor</i>	-/T/-	Nests in freshwater marshes with tall emergent vegetation, in spiny upland habitats (blackberry and thistle), and in silage fields. Forages in grasslands and agricultural areas, particularly where livestock is present.	Low. Marginally suitable nesting and foraging habitat occurs on or adjacent to the study area; nest colonies documented within 2 miles of the study area, but not known to be active in the past 25 years.

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T/E/-	Breeding habitat primarily consists of large blocks or contiguous areas of riparian habitat, particularly cottonwood–willow riparian woodlands. Prefers dense riparian thickets with dense low-level foliage near slow-moving water sources.	Low. Non-breeding individuals may forage in the study area but riparian corridor adjacent to the study area is too narrow and sparse to be suitable for nesting. No designated critical habitat is within the study area, but is located at the mouth of Deer Creek, approximately 5 miles downstream of the study area.
white-tailed kite <i>Elanus leucurus</i>	-/FP/-	Nests in woodlands and isolated trees and forages in grasslands, pasture, and agricultural fields.	Moderate. Species is known to nest in region, and study area supports suitable nesting and foraging habitat.
yellow-breasted chat <i>Icteria virens</i>	-/SSC/-	Breeds in areas of dense shrubbery, typically along rivers, as well abandoned farm fields, clear cuts, powerline corridors, fencerows, forest edges and openings, swamps, and edges of streams and ponds.	Moderate. Riparian habitat adjacent to the study area is suitable for nesting and foraging.
Yellow warbler <i>Setophaga petechia</i>	-/SSC/-	Breeds in thickets and other disturbed habitats, particularly along streams and wetlands.	High. The study area provides suitable habitat for this species; likely to occur during migration, but largely extirpated from nesting on the valley floor.
Mammals			
pallid bat <i>Antrozous pallidus</i>	-/SSC/-	Uses a wide variety of habitats throughout the State, including valley and foothill grasslands. Common in open, dry habitats with rocky areas for roosting, which must provide protection from hot temperatures. Generally roosts in caves or caverns or structures high above the ground where the entrance/exit is unobstructed.	Moderate. Riparian trees within the study area may provide suitable roosting habitat for this species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	-/SSC/-	Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas and along	Low. The study area does not provide suitable roost sites. The study area may provide foraging habitat.

Table 3. Special-status Species Potentially Occurring in the Study Area

Common and Scientific Name	Status ¹ (Federal/ State/ CNPS)	Habitat/Range/Life History	Potential for Occurrence ²
		streams.	
western mastiff bat <i>Eumops perotis californicus</i>	-/SSC/-	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	Low. The study area does not provide suitable roost sites. The study area may provide foraging habitat.
western red bat <i>Lasiurus blossevillii</i>	-/SSC/-	Riparian habitat with mature cottonwood and sycamore trees, cismontane woodland, or lower montane coniferous forest. Roosts in trees along habitat edges and varied habitat where trees are protected from above and open below for foraging.	High. The study area provides riparian broad-leaved trees for roosting and a variety of edge habitats for foraging.

Notes: DPS = distinct population segment; ESU = evolutionary significant unit; OHWM = ordinary high water mark; ppt = parts per thousand

1 - Status Key:

- CE Species listed as Candidate species to list as Endangered under either the Federal or California Endangered Species Acts.
- D Species delisted under either the Federal (FE) or California (SE) Endangered Species Acts.
- E Species listed as Endangered under either the Federal (FE) or California (SE) Endangered Species Acts.
- FP Wildlife species listed as Fully Protected by the California Department of Fish and Wildlife.
- SSC Wildlife species listed as Species of Special Concern by the California Department of Fish and Wildlife.
- T Species listed as Threatened under either the Federal (FT) or California (ST) Endangered Species Acts.
- No listing under either the Federal or California Endangered Species Act.

CRPR / California Rare Plant Rank

- 1B.1 Plant species considered Rare, Threatened, or Endangered in California and elsewhere, and seriously threatened in California (greater than 80 percent of occurrences are threatened and/or have a high degree and immediacy of threat).
- 1B.2 Plant species considered Rare, Threatened, or Endangered in California and elsewhere, and moderately threatened in California (20 to 80 percent of occurrences are threatened and/or have a moderate degree and immediacy of threat).
- 2B.2 Plants considered Rare, Threatened, or Endangered in California, but more common elsewhere (moderately threatened in California).

2 - Potential for Occurrence Key:

- Present:** The species is present or has been recently observed in the study area during biological survey(s).
- High:** The species has been recently (i.e., within the last 5 years) documented in the study area and potential habitat for the species is present.
- Moderate:** The project site is located within the range of the species and/or there are nearby documented occurrences, and potential habitat for the species exists in the study area.
- Low:** The project site is located within the range of the species and low-quality habitat is present in the study area; or, the Project is in the range of the species and potential habitat exists immediately adjacent to the study area.
- Absent:** The study area is located outside of the species range and/or potential habitat to support the species is absent in the study area.
- Not Present:** Potential habitat for the species is present in the study area; however, the species has been determined to be absent from the study area given the results of focused/protocol-level survey(s).

CDFW 2020; CNPS 2020; USFWS 2020; Compiled by GEI Consultants 2020

Proposed project construction would occur within a repair area that is approximately 300 linear feet and 0.71 acre in size. Temporary disturbance would also occur within 2.36 acres of the proposed staging and laydown areas. The project includes two potential staging areas, approximately 0.2 and 0.16 acre in size, located just upstream from the erosion site on the water side of the adjacent levee within open grassland. A 2-acre existing disturbed area used for farm equipment storage that is located approximately 1,400

linear feet along the levee road southwest from the erosion site would be used as a staging and turnaround area.

3.4.3 Discussion

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

3.4.3.1 *Special-status Plant Species*

No Impact. No special-status plant species were determined to have the potential to occur within the study area.

3.4.3.2 *Special-status Invertebrate Species*

Less than Significant with Mitigation Incorporated. Elderberry shrubs are located immediately adjacent to the proposed repair site and one of the staging areas. Valley elderberry longhorn beetles are assumed to be present in elderberry shrubs with stems 1 inch or greater in diameter at ground level. Although no elderberry shrubs are proposed for removal or trimming, any unanticipated trimming or removal during vegetation clearing and grading would have the potential for direct take of this species. Valley elderberry longhorn beetle may also be indirectly affected by construction activities in the 20-foot buffer around elderberry shrubs, resulting in a **potentially significant** impact. However, the implementation of **Mitigation Measure BIO-1**, which would implement best management practices (BMPs) to avoid and minimize impacts on biological resources, and **Mitigation Measure BIO-2**, which would implement valley elderberry longhorn beetle protection measures, would reduce this impact to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-1: Implement Best Management Practices to Avoid and Minimize Impacts on Special-status Species and Habitats

- Develop and implement an environmental awareness training program. This training shall be conducted by a qualified biologist and provided to all construction personnel before engaging in project-related activities. Environmental awareness training shall include a brief overview of sensitive wildlife, fisheries, and aquatic resources potentially occurring in the project area, their habitats, and methods of identification, including visual aids as appropriate, and shall also describe the measures to minimize impacts on those resources, and conditions of relevant regulatory permits.
- Retain a qualified biologist to conduct biological surveys prior to ground-disturbing activities and to provide monitoring during excavation activities. The biologist shall ensure that the project proponent implements best management practices to avoid and minimize impacts and shall document compliance with all biological resource-related mitigation measures.

- Limit ground disturbance to the minimum area necessary. Prior to ground-disturbing activities, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.
- Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion.
- Prior to initiation of repair activities, the retained biologist will identify potential riparian habitat, shaded riverine aquatic cover, and native oaks, and mark the boundaries of these areas using temporary fencing, high-visibility flagging, or other means that are equally effective in clearly delineating the boundaries. When feasible, repair activities will be excluded from these areas. In many situations, equipment can be operated to avoid disturbing isolated riparian trees or low-height riparian scrub habitat.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status species.
- Prohibit firearms, open fires, hunting, and pets on the project site.
- All vehicles and heavy equipment will be inspected for the presence of wildlife before the start of each workday when equipment is staged overnight.
- Construction vehicles and equipment will be checked daily for leaks and will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease.
- All project-related trash items, such as wrappers, cans, bottles, and food scraps, will be collected in closed containers, removed from the repair site each day, and disposed of at an appropriate off-site location to minimize attracting wildlife to the work area.
- The amount of revetment and similar materials used for bank protection and other repair activities will be limited to the amount necessary to ensure proper flood protection system integrity and function.
- Construction debris, and refuse will be removed and properly disposed of following completion of repair activities.
- Habitats, including sensitive natural communities, will be restored to pre-project conditions wherever feasible.

Timing: Before, during, and after construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-2: Implement Protection Measures for the Valley Elderberry Longhorn Beetle

- All suitable elderberry shrubs (i.e., shrubs with stem diameters of at least 1 inch when measured at ground level) will be avoided if not designated for removal or trimming.
- A 20-foot buffer will be established from the dripline of any elderberry shrubs to be avoided. These buffers will be avoided by all personnel and repair activities. Shrubs will be flagged or temporarily fenced, as needed, with guidance from the Designated Biologist and designated as biologically sensitive areas. When feasible, fencing will be placed at the buffer.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

3.4.3.3 *Special-status Fish Species*

Deer Creek provides suitable habitat for special-status fish species including fall/late-fall-run Chinook salmon, spring-run Chinook salmon, Pacific lamprey, and Central Valley steelhead. Proposed instream construction activities could adversely affect these species through increased sedimentation or the release of hazardous materials in Deer Creek, altering aquatic habitat suitability through the removal of shaded riverine aquatic habitat, fill of critical habitat, or disrupting behavioral patterns, resulting in potentially significant impacts. However, as described below with the incorporation of project elements and proposed mitigation measures, impacts would be reduced to a less-than-significant level.

Indirect Impacts of Construction on Special-status Fish

Indirect impacts to water quality from construction activities have the potential to affect the growth, survival, and reproduction of fish close to the construction site. Construction activities could indirectly harm fish by means of increased sedimentation, habitat degradation, or movement disruption. Sediment released into Deer Creek could result in indirect impacts on resident fish through gill damage and reduced capacity to take in oxygen. These impacts could cause reduced fitness as a result of decreased dissolved oxygen (DO) intake ability, increased metabolic costs associated with reduced DO intake ability, and reduced foraging ability due to visibility. This impact would be **significant**.

Implementation of **Mitigation Measure BIO-1** and **Mitigation Measure GEO-1** would minimize impacts to water quality. Adherence to U. S. Army Corps of Engineers (USACE) Section 404 and Central Valley Regional Water Quality Control Board (CVRWQCB) Section 401 permit requirements would further minimize impacts to water quality and result in a **less-than-significant impact with mitigation incorporated**.

Direct Impacts of Construction on Special-status Fish

Direct impacts from construction activities, such as erosion repair activities, have the potential to physically harm or kill fish within close proximity to the construction site. Direct impacts include mortality or injury from construction equipment, vibrations, or falling debris. This impact would be **significant**.

Implementation of minimization measures included in **Mitigation Measure BIO-1**, and **Mitigation Measure BIO-3**, which would limit the instream work window, allow for daily fish migration, and warn fish before start of construction, would reduce this impact to **less-than-significant with mitigation incorporated**.

Mitigation Measure BIO-3: Implement Measures to Minimize Injury, Mortality, or Disruption to Fish Species

- Instream construction activities shall occur between July 15 and October 15 to avoid adverse impacts to Chinook salmon. Instream work could start sooner if CDFW determines that the adult spring-run Chinook salmon are no longer present based on environmental conditions and real time passage data. Instream work could also be extended if environmental conditions which would preclude juvenile steelhead and spring-run Chinook salmon emigration or adult steelhead and late-fall-run Chinook salmon immigration are expected to persist. Instream work outside of the July 15 to October 15 work window must be approved by CDFW and NMFS with details on how take will be avoided and/or minimized.
- Instream work shall only occur for up to 12 hours per day to allow a 12-hour window of time for fish to migrate through without noise disturbance.
- Prior to beginning instream work, the excavator bucket shall be operated to “tap” the surface of the water.
- Instream operation of the excavator bucket shall be conducted slowly and deliberately to allow fish time to seek refuge outside the work area.

Timing: Before and throughout the in-water construction period.

Responsibility: District and its construction contractor(s).

Impacts to Special-status Fish Habitats

The proposed project falls within designated critical habitat for both spring-run Chinook salmon and Central Valley steelhead. Additionally, the proposed project is within EFH for Pacific Coast Salmon (Chinook) as designated under the Magnuson-Stevens Fishery Conservation Management Act.

The placement of riprap below the OHWM will result in a direct impact and the loss of designated critical habitat for both spring-run Chinook salmon and Central Valley steelhead. This would also be a permanent loss of EFH for Pacific Coast Salmon (Chinook) as designated under the Magnuson-Stevens Fishery Conservation Management Act. This impact would be **significant**.

Mature tree removal is not anticipated. However, if impacts to riparian habitat that functions as shaded riverine aquatic habitat cannot be avoided it would result in a **significant** impact.

Implementation of the compensatory measures included in **Mitigation Measure BIO-4** would reduce potential impacts to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-4: Implement Measures to Avoid, Minimize, and if Necessary, Compensate for Impacts on Critical Habitat

- Impacts on instream habitat and riparian vegetation that provide shaded riverine aquatic habitat shall be avoided to the maximum extent practicable during development of the final project footprint. Habitat to be avoided shall be clearly designated as environmentally sensitive areas, and these areas shall be avoided by all construction personnel. Impacts also shall be minimized by retaining the integrity of important critical habitat features to the maximum extent feasible.
- If permanent impacts on critical habitat cannot be adequately avoided and minimized, an appropriate and feasible mitigation plan shall be developed in consultation with NMFS. If required, compensatory mitigation may include preserving, enhancing, and/or restoring habitat along the creek (outside of the project footprint) and/or at an off-site location. Compensation also may include purchase of credits at a NMFS-approved mitigation bank.

Timing: In coordination and compliance with regulatory agencies during the permitting process.

Responsibility: District and its construction contractor(s).

3.4.3.4 Special-status Reptile and Amphibian Species

Less than Significant with Mitigation Incorporated. Western pond turtles could be present within aquatic areas or adjacent grasslands. Construction activities including instream work, vegetation removal, and grading activities could directly impact western pond turtles if present during these activities, resulting in a **potentially significant** impact.

With the incorporation of proposed mitigation, including **Mitigation Measure BIO-1**, which would implement BMPs to avoid and minimize impacts on biological resources, and **Mitigation Measure BIO-5**, which would implement western pond turtle protection measures, this impact would be reduced to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-5: Implement Protection Measures for the Western Pond Turtle

- A qualified biologist shall conduct pre-construction surveys for western pond turtle in suitable upland and aquatic habitat within 48 hours prior to the start of construction activities. If there is a lapse in construction activities of 2 weeks or greater, the area shall be resurveyed within 24 hours prior to recommencement of work.
- If western pond turtles are observed within the project area during project construction, CDFW shall be notified and construction activities in the vicinity shall cease until protective measures are implemented or it is determined that the pond turtle will not be harmed. If it is determined that the pond turtle would be harmed by continued construction activities, a qualified biologist shall move the western pond turtle to a suitable location outside of the project area.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s)

3.4.3.5 Special-status Bird Species

Less than Significant with Mitigation Incorporated. Special-status bird species, including the bald eagle, burrowing owl, Swainson’s hawk, white-tailed kite, yellow-breasted chat, and yellow warbler, may nest or forage within or in the vicinity of the project site. Nesting season typically extends from February 1 through August 31 for migratory birds and other birds of prey. Staging activities would occur within annual grassland, so impacts to burrowing owls could occur. However, construction activities, including the potential removal of riparian vegetation or a tree, could result in take of an active nest, nest abandonment, or disruption of nesting or foraging behavior for other special-status bird species if it were to occur during the nesting season, resulting in a **potentially significant** impact.

With the incorporation of proposed mitigation, including **Mitigation Measure BIO-1**, which would implement BMPs to avoid and minimize impacts on biological resources, as well as implementation of the nest protection measures included in **Mitigation Measures BIO-6 through BIO-8**, this impact would be reduced to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-6: Conduct Pre-construction Nesting Bird Surveys During the Nesting Season

- If construction is scheduled to occur during the bird nesting season (February 1 through August 31), pre-construction nesting bird surveys shall be conducted by a qualified biologist in all suitable nesting habitats within the project area.
- Nesting surveys shall be conducted in accordance with the recommended timing, methodology, and or/protocol for each bird species.
- Surveys shall also include a 0.25-mile radius outside of the project area for Swainson’s hawk, white-tailed kite, and bald eagle, and a 500-foot radius outside of the project area for other nesting birds.
- Surveys shall be conducted not more than 5 days prior to the start of construction, or as prescribed by established survey protocols.

Timing: Before construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-7: Establish Nest Protection Buffers for Active Bird Nests

- If an active bird nest is located in the survey area, an appropriate nest protection buffer shall be established by a qualified biologist based on the species, type of construction

activities, and line of sight to the work area. Under this measure, nesting birds and offspring would not be disturbed or killed, and nests and eggs would not be destroyed.

- Work shall be conducted no less than 500 feet from an active raptor nest and 100 feet from an active migratory bird nest, though buffer distances for all nesting birds may differ based on consultation with CDFW and USFWS.
- To prevent encroachment, the established buffer(s) shall be clearly marked by high-visibility material if it has been determined by the qualified biologist that high-visibility material would not attract predators to the nest site. No construction activities, including tree removal, shall occur within the buffer zone until the young have fledged or the nest is no longer active, as confirmed by the qualified biologist.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s)

Mitigation Measure BIO-8: Monitor Active Bird Nests Within Nest Protection Buffer

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

Timing: Before and during construction.

Responsibility: District and construction contractor(s).

3.4.3.6 Special-status Mammal Species

Less than Significant with Mitigation Incorporated. The special-status pallid bat and western red bat have the potential to forage within the study area and roost in the bark or foliage of riparian trees within study area. Project construction would occur during daylight hours, so no impact to foraging bats are anticipated. Although no trees are proposed for removal, if during construction it is determined that a tree needs to be removed, tree removal could result in injury or direct take of these bat species, resulting in a **potentially significant** impact.

With the incorporation of proposed mitigation, including **Mitigation Measure BIO-1**, which would implement BMPs to avoid and minimize impacts on biological resources, as well as

implementation of the nest protection measures included in **Mitigation Measures BIO-9 and BIO-10**, this impact would be reduced to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-9: Conduct Pre-construction Surveys for Special-status Bats

- A qualified biologist shall conduct pre-construction surveys of all trees proposed for removal for western red bat, pallid bat, and maternity roosts within 24 hours prior to the start of construction activities.
- If the tree removal lapses for more than 24 hours after the survey, an additional survey will be required.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure BIO-10: Implement Protective Measures during Removal of Trees with Bat Roosts

- All removal of trees with bat roosts shall be conducted between September 1 and October 30, which corresponds to a time period when bats would not be caring for non-volant young and have not yet entered torpor, or after October 30 to avoid impacts to hibernating bats (or earlier than October 30 if evening temperatures fall below 45 degrees Fahrenheit and/or more than a half inch of rainfall occurs within 24 hours).
- If a non-maternity roost is found in a tree that must be removed or trimmed between September 1 and October 30, a qualified biologist shall monitor tree removal/trimming. Tree removal/trimming shall occur over 2 consecutive days. On the first day in the afternoon, limbs and branches shall be removed using chainsaws only. Limbs with cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features shall be removed. On the second day, the entire tree shall be removed. Prior to tree removal/trimming, each tree shall be shaken gently and several minutes shall pass before felling trees or limbs to allow bats time to arouse and leave the tree. The biologist shall search downed vegetation for dead or injured bat species and report any dead or injured special-status bat species to CDFW.
- If a maternity roost is identified, a no-disturbance buffer shall be established and maintained until a qualified biologist determines that the roost is no longer active.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

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

Less than Significant with Mitigation Incorporated. Riparian habitat is designated as a sensitive natural community because of its declining trend and high value to wildlife and hydrologic function. Shaded riverine aquatic habitat provided by riparian vegetation provides food and cover for fish species. Construction activities associated with vegetation removal may adversely affect riparian habitat, resulting in a **potentially significant** impact.

The incorporation of proposed mitigation, including **Mitigation Measure BIO-1**, which would implement BMPs to avoid and minimize impacts on biological resources, reduce impacts to less than significant. Further, although tree removal is not anticipated, if impacts to riparian habitat cannot be avoided, implementation of the compensatory measures included in **Mitigation Measure BIO-3** (see impact discussion section above for special-status fish species) would reduce potential impacts to **less than significant with mitigation incorporated**.

c) Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated. Project construction would have no impact on wetlands as no wetlands occur within the project area. Project construction would, however, impact approximately 0.08 acre of waters of the United States (i.e., perennial stream) and this impact would be **potentially significant**.

Construction would be regulated under Section 404 of the Clean Water Act and would require Section 401 water quality certification from the CVRWQCB. CDFW may impose additional requirements as part of the streambed alteration agreement under Section 1602 of the California Fish and Game Code. Adherence to these permit requirements and, if necessary, implementation of the compensatory measure included in **Mitigation Measure BIO-11**, would ensure that potential impacts to waters of the United States would be **less than significant with mitigation incorporated**.

Mitigation Measure BIO-11: Compensate for Impacts to Waters of the United States

- If impacts to waters of the United States cannot be feasibly avoided, the District shall implement one of the following compensatory measures:
 - Pay in-lieu fees for wetlands or waters of the United States permanent impacts authorized by USACE through the in-lieu fee program of the Sacramento District of the USACE and administered by the National Fish and Wildlife Foundation, at a ratio determined in consultation with USACE, or
 - Secure waters of the United States credits at a USACE-approved mitigation bank for permanent impacts at the repair site at a ratio determined in consultation with USACE.

Timing: Before construction.

Responsibility: District and its construction contractor(s).

- 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?**

3.4.3.7 Migratory Fish

No Impact. The proposed project would not interfere substantially with the movement of any native resident or migratory fish species. Migratory special-status fish species do have the potential to occur in the project area, but the proposed project is limited to the margins of Deer Creek and would not substantially inhibit migration. Furthermore, the proposed work window is limited to a period in which migration is limited. The proposed project would have **no impact** on the movement of any native resident or migratory fish and, therefore, no mitigation is proposed.

3.4.3.8 Terrestrial Species

Less than Significant with Mitigation Incorporated. Construction activities within and adjacent to riparian habitat may temporarily disrupt movement of terrestrial species. Noise associated with construction activities also has the potential to interfere with nesting and foraging activities. Although construction is only anticipated to last approximately 1 month, disruption of wildlife movement or use of nursery sites would be **potentially significant**.

With the incorporation of proposed mitigation, including **Mitigation Measure BIO-1**, which would implement BMPs to avoid and minimize impacts on biological resources, and well as implementation of the other avoidance, protection, and compensatory measures included in **Mitigation Measures BIO-2** through **BIO-11**, these impacts would be reduced to **less than significant with mitigation incorporated** (see previous impact discussions for special-status species, riparian habitat, and waters of the United States).

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

No Impact. No local policies or ordinances protecting biological resources within the study area have been established. In addition, no mature trees are proposed for removal; therefore, there would be no impact.

- e) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?**

No Impact. The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, and there would be no impact.

3.5 Cultural Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
V. CULTURAL RESOURCES.					
Would the project:					
p) Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations (CCR) Section 15064.5?		Less-than-significant impact with mitigation incorporated			
q) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?		Less-than-significant impact with mitigation incorporated			
r) Disturb any human remains, including remains interred outside of dedicated cemeteries?		Less-than-significant impact with mitigation incorporated			

3.5.1 Thresholds of Significance

Cultural resources are defined as buildings, sites, structures, or objects that may have historic, architectural, archaeological, cultural, or scientific importance. CEQA defines a “historical resource” as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). To be eligible for the CRHR, a resource must embody more of the following four criteria and retain sufficient integrity to convey the reason for its importance: 1) is associated with the events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; 2) is associated with the lives of persons important in our past; 3) embodies distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or 4) has yielded, or is likely to yield, information important in prehistory or history. A resource may also qualify as an historical resource if it is included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code (PRC) Section 5020.1.

3.5.2 Environmental Setting

3.5.2.1 Prehistoric Setting

This brief overview of the prehistory of the region is adapted from synthesis and analysis of the archaeological investigations within the Southern Cascade region and recovered from eight sites (Johnson n.d., DeMar 2014). A five-phase chronological sequence for the vicinity that spans the last 4,000 years. Wiant (1981:51) pointed out that Baumhoff (1957) detected that most of the changes between cultural complexes seemed to indicate general shifts in available trade items and external relations, rather than any major internal changes in subsistence patterns or social systems. The

complexes noted by Johnson (n.d.) include Deadman, Kingsley, Dye Creek, Mill Creek, and Ethnographic Yana (DeMar 2014). The following chronological scheme is adapted from DeMar (2014).

The Deadman complex is associated with the period from 1500 to 500 B.C. representing the earliest known distinct temporal period thus far recognized in the Southern Cascade mountain foothills. This sequence is characterized by a prevalence of basalts over obsidian and siliceous lithic raw materials, large variable projectile points, and the presence of manos and metates.

The Kingsley Complex, also defined by Johnson (n.d.) temporally follows the Deadman Complex and is associated with the time period from 500 B.C. to A.D. 500. Characteristics of this sequence include the use of large stemmed and corner-notched projectile points made principally of basalt, scoop Olivella shell beads, and spatulate bone tools. The use of hopper mortars and flat-ended pestles first begin to appear in the archaeological record during this time and are seen in conjunction with slab metates and shaped rectangular manos.

The Dye Creek Complex, is associated with the period from A.D. 500 to 1500 (Johnson n.d.). According to the Johnson (n.d.) the characteristics of this complex include large serrated projectile points of obsidian and basalt, Gunther barbed variants and specimens morphologically similar to Columbia Plateau corner-notched styles. Ground stone implements are common and include hopper mortars, flat-ended pestles, manos and slab metates.

The Mill Creek Complex temporally follows Dye Creek and is associated with the period from A.D. 1500 to 1845. Mill Creek stratigraphically overlies Dye Creek components and indicates selection for obsidian and fine-grained lithic materials over basalts for the manufacturing of small triangular points. Other projectile points commonly found during this sequence include Desert Side-notched and Southern Cascade variants.

The final complex defined by Johnson (n.d.) is associated with the ethnographic Yana or protohistoric period following historic contact. Characteristic material traits associated with this sequence include white porcelain trade beads, large clam shell disc beads, twined basketry with overlay designs, slab metates, manos, hopper mortars, flat-ended pestles, small triangular serrated obsidian and glass projectile points in addition to miscellaneous artifacts of Euro-American manufacture.

3.5.2.2 Ethnographic Setting

The project area lies on the border between two ethno-linguistic groups: the Nomlaki and Northern Maidu or Konkow. A third group, Yana, were located farther east, higher up the Deer Creek drainage in the foothills. The lower Deer Creek drainage, where it meets the Sacramento River was the most northern extent of the Konkow or the Northwestern Maidu and the southernmost extent of the River Nomlaki. The River Nomlaki lived along the Sacramento River and its lower creek drainages in Tehama County. The Nomlaki and Konkow languages were quite different. The Nomlaki spoke a dialect of their northern Wintu neighbors from a Penutian linguistic stock (Goldschmidt 1978), whereas Konkow was part of the Maidu family of languages, which come from the California Penutian linguistic stock (Riddell 1978). Although both groups languages were much different, both groups were similar in social organization and settlement-subsistence practices.

The following description of Nomlaki lifeways is derived from Kroeber (1932), Goldschmidt (1978), and Moratto (1984) and adapted from Meyer (2008).

The Nomlaki tribes were traditionally separated into “tribelet.” Though usually speaking a dialect very similar to the their northern Wintu neighbor, each triblet was “wholly autonomous... owning a restricted territory” (Kroeber 1932:258). Each Nomlaki triblet was further organized into villages, varying in size and importance. Nomlaki villages contained between five and 50 homes that housed 25 to 200 people. Each settlement had a patrilineal chief or headman (Goldschmidt 1978:343). Villages were composed solely of patrilineal descent groups, although temporary matrilineal residency were practiced (Goldschmidt 1951, 1978).

Nomlaki subsistence strategies can best be described as semi-sedentary or transhumant. Year-round villages were common, as were summer camps maintained by members of the base village for their own exclusive use. Economic activities consisted of the collection of plant foods, hunting, and fishing. The main staples of the Nomlaki diet came from acorns, deer, small game, and fish.

The River Nomlaki manufactured a variety of implements for their own use and for trade: bows, arrows, spears, elk-hide armor, harpoons, stone and bone knives, throwing sticks, slings, nets, basketry, elk-hide sandals, and clothing fabricated from hides, pelts, and inner bark. Internal trade existed between clans and individual families as well as between the River and Hill Nomlaki. Trade and exchange were accomplished through direct barter, or through the valuation of clamshell beads. The Nomlaki were also part of a trade route extending from San Francisco Bay to the Oregon border.

Before contact, the Nomlaki were semi-sedentary hunter-gatherers. They lived in permanent villages in the winter, subsisting mainly on stored food, and occupied resource procurement camps, typically building temporary brush shelters (Du Bois 1935), during the spring and summer months (Moratto 1984). Kroeber (1925:354) states that Valley people occupied permanent villages along the Sacramento River during winter and moved to the adjacent plains near tributary streams during the dry half of the year. Hill people established winter villages where tributary streams reached the open valley and moved to the mountains and hills during summer (see also Waugh 1995). Permanent villages were never entirely abandoned (Goldschmidt 1978), as a few elderly individuals would be left behind while the other villagers traveled to their seasonal camps to collect food. According to Goldschmidt (1978), each village had its own special site in the hinterlands that it moved to each summer.

The Nomlaki’s location in north-central California kept them relatively isolated from the early California coastal explorations of the Spanish, Mexicans, and Russians. In October 1808, Alferéz (Ensign) Gabriel Moraga reached Glenn County, and in 1821, Luis Arguello crossed Glenn and Tehama counties. European-American trapping expeditions during the 1830s introduced malaria (Goldschmidt 1978). Malaria epidemics are known to have taken the lives of approximately 75 percent of native peoples living along the Sacramento River. From the 1830s onward, the intentional and unintentional activities of European-Americans resulted in the exploitation, decline, and displacement of the Nomlaki people. Mining, ranching, and logging polluted waterways and otherwise contributed to the destruction of Nomlaki territory. The Nomlaki’s traditional food resources were also subjected to over-hunting and over-fishing. The removal of the Nomlaki to various reservations further decimated their culture (Goldschmidt 1978).

As early as 1851, tribes of the central Sacramento drainage accepted treaties with the United States government. Congress, however, ratified none of these. In 1854, the Nome Lackee Reservation was established in the western foothills of Tehama County. By 1856, American settlers were already pushing for the abandonment of the 25,000-acre reservation (Goldschmidt 1978). Indeed, the reservation was taken over by American settlers soon after, and by 1863, Indians from the reservation were forced to the Nome Cult Farm in Round Valley, Mendocino County, many dying along the arduous

journey. Round Valley was the home of the Yukis, traditional enemies of the Nomlaki. Many Nomlaki escaped, returning to the foothills of their traditional territory, and served as farm hands for the Anglo ranchers. Population estimates for the Nomlaki prior to European-American contact hover around 2,000 individuals. By the 1930s, the population consisted of three rancherias of only a half-dozen households each. Men during this time generally served as casual or migratory laborers (Goldschmidt 1978).

3.5.2.3 Historic Setting

Tehama County

Tehama County is largely rural in nature with only a handful of populated communities located primarily adjacent to Interstate-5 and Highway 99. The county was established in 1856, with the incorporation of portions of Colusa, Butte, and Shasta counties. The county seat was originally situated in the community of Tehama but was transferred to Red Bluff in 1857 where it remains today (Hoover et al., 2002).

The earliest European explorer in the Tehama County area was most likely the Spanish explorer Luis Arguello who passed through the region in 1821 followed by Jedediah Strong Smith of the Hudson's Bay Company (Hoover et al., 2002). In the mid-19th century, settlers arrived and started farming and livestock grazing in the area. Larger settlements in the county included Corning, Red Bluff, and Tehama. The town of Tehama, located just south of Red Bluff, briefly served as the county seat. For a short time Tehama enjoyed a robust economy centered on trade and travel. The community was eventually eclipsed by the larger town of Red Bluff (Gudde 1969).

Throughout the 20th century, agriculture and timber remained the mainstay of Tehama County. Sheep raising and fruit orchards along with grain and barley and the production of wool and lumber also all helped fuel the economy. Currently, the economy of Tehama County remains based on ranching, agriculture, and timber (Tehama County 2020).

Flood Control

During the first half of the 20th century, Congress passed a handful of flood control acts, including the Flood Control Acts of 1917, 1928, 1936, and 1941. The Flood Control Committee was tasked with regulating and controlling the flood waters of the U.S. through levees, land reclamation, swampland reclamation, and storage for water power. The Flood Control Committee authored a bill for Mississippi flood control and an amended Jackson Report for California. It was enacted as the 1917 Federal Flood Control Act, which required USACE to work with state governments and local levee districts and provided \$5.6 million to construct flood control facilities on the Sacramento River (O'Neill 2006:125). The Sacramento River Flood Control Project (SRFCP) began in 1918 and marked the first expansive flood control efforts on the Sacramento River. It also was the first time Congress appropriated funds for the specific purpose of flood control (Arnold 1988:14). By 1925, most of the levees on the Sacramento River were improved to meet Federal design standards (Kochis 1963:11).

The Flood Control Act of 1928 was passed after a catastrophic flood on the Mississippi River. The act included floodways, spillways, and channel improvements and it authorized USACE to design and construct flood control projects. The act authorized work on the Mississippi and Sacramento Rivers, making it the largest public works project of its time. The 1936 Flood Control Act established the Federal government's responsibility for flood control and solidified USACE's authority (O'Neil 2006:165–166). The SRFCP was amended in 1937 to include bank protection measures and levee setbacks. The 1936 act was modified again in 1941 to authorize Federal expenditures for flood control

projects, including purchasing land, easements, and rights-of-way. By 1944, the SRFCP was nearly 90 percent complete and 980 miles of levees had been constructed and within 10 years many miles of project levees along the Sacramento River required work to bring them up to Federal standards (Kochis 1963: Section 4.1). By 1967, the entire SRFCP included approximately 1,000 miles of levees in addition to weirs, pumping plants, drainage canals, and other improvements (Jones 1967:20).

3.5.2.4 Methods

In an effort to identify any cultural resources present within the project area, the cultural resources investigations completed included:

- Records search conducted at the Northeast Information Center (NEIC) of the California Historical Resources Information System at California State University, Chico (NEIC File #20-235);
- Review of cultural resources documents;
- Review of historic maps and ethnographic documents
- Archival research;
- Reviewed the USACE operations and maintenance (O&M) manual for Deer Creek (USACE 1957);
- Requested a Sacred Lands File Search from the California Native American Heritage Commission (NAHC); and
- Conducted an intensive pedestrian cultural resources survey of the project area.

The NEIC records search indicated that no cultural resources have been recorded within the project area or within a one-half mile radius of the project area. The results showed that the project area has not been previously surveyed for cultural resources. Two pedestrian surveys had been completed within one-half mile (Deitz 1999, Martinez and Sikes 2008), but no resources were identified as a result of these investigations.

GEI requested a search of the sacred lands file from the NAHC on December 8, 2020. GEI has not received a response to the request to date. GEI will follow up with any Native American individuals and/or groups that the NAHC may suggest having additional information on the project area.

3.5.2.5 Findings

On November 18, 2020, GEI archaeologist Matthew Chouest (M.A. and Registered Professional Archaeologist), conducted a pedestrian survey of the project area, covering approximately 9.5 acres. It was conducted to intensive standards with transects no more than 15-meters apart. Surface visibility was fair to excellent across other portions of the survey area, which included the slope along the side of the levee from the erosion repair location, the proposed staging and laydown areas to the northeast, the levee road, the large staging/turnaround area to the southwest, and a small buffer around them. No evidence of archaeological resources was noted during the survey. One historic-era resource (more than 45 years old) is in the project area: The Deer Creek Levee Unit 1. No additional cultural resources were identified during the 2020 site visit.

3.5.3 Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to in California Code of Regulations Section 15064.5?

Less-than-significant impact with mitigation incorporated. The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. is associated with the lives of persons important in our past;
3. embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

The Deer Creek Levee Unit 1 is located in the project area. USACE authorized construction of the levee in 1949 as part of the SRFCP to protect the farming and pasture lands near the community of Vina (USACE 1957). The levee is an integral part of the regional flood control system and meets CRHR Criterion 1 for its association with the SRFCP and flood management. It is therefore considered a historical resource for the purposes of CEQA.

The proposed project would use the levee road to access the project site, while previously disturbed areas along the levee road would be used for staging purposes. The project activities would not cause the physical destruction of the levee or alter its overall design or form and the levee would retain the ability to convey its historical significance. It would also retain its integrity of location, setting, materials, feeling, and association as a flood control property and would continue to function as intended. Therefore, this impact would be less than significant and no mitigation is required.

No archaeological resources have been identified on the project site during the November 2020 site visit or previous investigations. During project activities and continuing consultation with Native American Tribes, however, it is possible that archaeological resources meeting criteria for inclusion of the CRHR could be identified. Therefore, this would be a **potentially significant** impact. Mitigation Measure CR-1 has been identified to address this impact.

Mitigation Measure CR-1: Implement Procedures for Inadvertent Discovery of Cultural Material.

- If an inadvertent discovery of buried or otherwise previously unidentified historical resources, including archaeological resources (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains), is made at any time during project-related construction activities or project planning, Tehama County Flood Control and Water Conservation District (Tehama County), with input from other interested parties, will develop and implement appropriate protection and avoidance measures, where feasible. If such resources are discovered during project construction, all work within a 100-foot-radius of the find shall cease. Tehama County shall retain a professional archaeologist meeting the Secretary of the Interior’s Professional Standards for Archaeologists to assess the discovery and recommend what, if any, further treatment or investigation is necessary for the find. Culturally affiliated Native American Tribes will also be contacted concerning resources of Native American origin. Avoidance is the preferred CEQA mitigation measure for cultural resources. If avoidance is not possible, any necessary treatment/investigation shall be developed in coordination with interested Native American Tribes providing recommendations to Tehama County and shall be completed before project activities continue in the vicinity of the find. An inadvertent discovery plan shall be developed before construction begins and shall be implemented in the event of a discovery during project construction.

Timing: Before and during project construction activities.

Responsibility: The District and its construction contractor(s).

Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown historical resources to a less-than-significant level because the find would be assessed by a qualified archaeologist and the treatment or investigation would be conducted in accordance with CCR Section 15064.5. Therefore, this impact would be a less-than-significant impact with mitigation incorporated.

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

Less-than-significant impact with mitigation incorporated. As used in PRC Section 21083.2, the term “unique archaeological resource” refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

No archaeological resources were found on the project site during the November 2020 site visit, and none were identified in the records search. Ground disturbance would occur in a portion of Deer Creek left bank (south bank) to reshape it to a more stable profile. The project location was modified during the original construction of the Deer Creek levee and subsequent maintenance. Excavation would extend approximately 300 feet or less along the embankment. However, the excavated material would be entirely limited to the more recently deposited soils of the river wash during more modern flood events. The likelihood of encountering cultural resources during construction is low to moderate, based on the location of where the excavation will be taking place, and it is unlikely that any historical or archaeological resources that may have once existed at the erosion repair location has been previously washed out or destroyed. Nevertheless, the remote possibility remains that previously unidentified, buried historical or archaeological resources may exist on the project site. If such resources are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by project implementation. This would be a **potentially significant** impact. Mitigation Measure CR-1 has been identified to address this impact.

Mitigation Measure CR-1: Implement Procedures for Inadvertent Discovery of Cultural Material.

Please *refer to* Mitigation Measure CR-1 under Question “a)” for the full text of this mitigation measure.

Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown archaeological resources because the find would be assessed by a qualified archaeologist and the treatment or investigation would be conducted in accordance with CCR Section 15064.5. Therefore, this impact would be **less-than-significant impact with mitigation incorporated**.

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

Less-than-significant impact with mitigation incorporated. No human remains were found on the project site during the 2020 pedestrian survey and none were identified in the records search. However, it is possible, though unlikely, that undiscovered, buried human remains may exist on the project site. If human remains are present in areas subject to project-related ground disturbance, they could be encountered during project implementation. This would be a **potentially significant** impact. Mitigation Measure CR-2 has been identified to address this impact.

Mitigation Measure CR-2: Avoid Potential Effects to Previously Unknown Human Remains.

- If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, Tehama County will implement the procedures listed below. If human remains are identified on the project site, the following performance standards shall be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, Tehama County will immediately halt potentially damaging excavation in the area of the burial and notify the Tehama County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to

examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of Tehama County for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.9 et seq.

Upon the discovery of Native American human remains, Tehama County will require that all construction work within 100 feet of the discovery stop, until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains.

If agreed to by the MLD and the landowner, Tehama County or its authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, Tehama County or its authorized representative may also reinter the remains at a location not subject to further disturbance if recommendation of the MLD is rejected and mediation by the NAHC fails to provide measures acceptable to Tehama County.

If the human remains are of historic age and are determined not to be of Native American origin, Tehama County will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

Timing: During project construction activities.

Responsibility: The District and its construction contractor(s).

Implementing Mitigation Measure CR-2 would reduce the potentially significant impact associated with human remains, because any inadvertent discovery of human remains would be addressed as proscribed by State law and the MLD would be consulted. Therefore, this impact would be a less-than-significant impact with mitigation incorporated.

3.6 Energy

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
VI. ENERGY.					
Would the project:					
s) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			Less-than-significant impact		
t) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?				No impact	

3.6.1 Thresholds of Significance

The thresholds of significance for energy are based on the Appendix G checklist questions.

3.6.2 Environmental Setting

Electric power and natural gas in Tehama County are supplied by the Pacific Gas and Electric Company (PG&E). In 2019, Tehama County consumed approximately 508 million kilowatt hours of electricity (CEC 2020). Current energy usage at the project site is negligible, because the site is limited to the Deer Creek levee and undeveloped land.

3.6.3 Discussion

- a) **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Less-than-significant impact. Project-related energy consumption would result from fuel use in construction equipment and vehicles. Implementing the project would involve approximately 1 month of construction. Equipment and vehicle use would occur as specified in Section 2, “Project Description,” and only the necessary vehicles and equipment would be used to avoid wasteful, inefficient, or unnecessary consumption of energy resources. Operation and maintenance activities would be unchanged from existing practices and would not include permanent lighting or other sources of energy use, except for minimal use of vehicles for levee patrol and maintenance purposes. Energy use and associated emissions are analyzed in Section 3.3, “Air Quality,” and Section 3.8, “Greenhouse Gas Emissions.” Energy use from the project would result in a less-than-significant impact.

- b) **Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?**

No impact. Implementing the project would not result in any developed land uses or construct temporary or permanent structures or facilities that could conflict with State or local plans for renewable energy or efficiency.

3.7 Geology and Soils

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
VII. GEOLOGY AND SOILS.					
Would the project:					
u) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)				No impact	
ii) Strong seismic ground shaking?			Less-than-significant impact		
iii) Seismic-related ground failure, including liquefaction?			Less-than-significant impact		
iv) Landslides?			Less-than-significant impact		
v) Result in substantial soil erosion or the loss of topsoil?		Less-than-significant impact with mitigation incorporated			
w) 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?				No impact	
x) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?				No impact	
y) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				No impact	
z) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				No impact	

3.7.1 Thresholds of Significance

The thresholds of significance for geology and soils are based on the Appendix G checklist questions.

3.7.2 Environmental Setting

3.7.3 Discussion

- a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)**

No impact. The proposed project is not located in an Alquist-Priolo Earthquake Fault Zone, as defined by the California Geological Survey, and no active or potentially active faults exist on, or in the immediate vicinity of, the levee repair site (California Department of Conservation 2020).

- ii) **Strong seismic ground shaking?**
- iii) **Seismic-related ground failure, including liquefaction?**
- iv) **Landslides?**

Less-than-significant impact. The proposed project is not located in an Alquist-Priolo Earthquake Fault Zone, as defined by the California Geological Survey, and no active or potentially active faults exist on, or in the immediate vicinity of, the levee repair site (California Department of Conservation 2020). The proposed project would not exacerbate seismic conditions that could expose people or structures to seismic risks or induce seismically-triggered landslides. Furthermore, the levee repairs would be constructed using current engineering specifications that meet seismic safety levels for the region. The potential for surface fault rupture, strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides would be less than significant.

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

Less-than-significant impact with mitigation. The proposed erosion repair would import topsoil to restore and stabilize erosion damage on a levee. The project would involve ground-disturbing activities, including vegetation clearing and grubbing, excavation, and placement of rockfill and soil-filled rockfill. Ground-disturbing activities may result in minor removal of topsoil, but topsoil would be replaced after repair activities, reseeded, and returned to existing conditions or better. This impact would be potentially significant. Mitigation Measure GEO-1 has been identified to reduce this impact.

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

- Prior to initiating and during construction, the District will prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to

minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP will identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events, techniques to control pollutant discharge, and an erosion control plan. Regardless of the need for a SWPPP or SWMP, construction techniques and BMPs will be identified and implemented, as appropriate to reduce the potential for runoff and exposure to hazardous materials. Construction techniques will include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that specify erosion and sedimentation control measures to be implemented may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, re-seeding with native species, and mulching to revegetate disturbed areas. If suitable vegetation cannot reasonably be expected to become established, non-erodible material will be used for such stabilization.

The SWPPP or SWMP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans. The SWPPP or SWMP shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP shall also identify emergency procedures for responding to spills. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment, including during gravel processing.

The BMPs presented in either document shall be clearly identified and maintained in good working condition throughout the construction process. The construction contractor shall retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

The District and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials can only be conducted under a registration issued by the California Department of Toxic Substances Control. Construction contractors shall be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations.

Timing: Before and during construction.

Responsibility: The District and its construction contractor(s).

Implementing Mitigation measure GEO-1 would reduce erosion impacts to a less-than-significant level because it would require that the project acquire necessary permits and incorporate measures to minimize soil erosion.

c), d) 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? Or be located on an expansive soil?

No impact. The project site includes erosion repair in an area of Molinos complex (channeled) and Riverwash soils (USDA 2020). Molinos complex soils are well-drained soils formed in recent alluvium. Riverwash consists of sand and gravel deposits. These soils have a low shrink-swell potential, and no construction of buildings or other structures are proposed. The project includes repairs to avoid future erosion, spreading, or failure of the levee structure, and there would be 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?**

No impact. The project would not include the use of septic systems or require wastewater disposal.

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

No impact. The project would repair erosion of a levee, and the soils that would be excavated or removed are engineered soil that would not contain paleontological resources. The proposed excavation would not extend into older sediments with the potential to contain paleontological resources.

3.8 Greenhouse Gas Emissions

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
VIII. GREENHOUSE GAS EMISSIONS.					
Would the project:					
aa) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			Less-than-significant impact		
bb) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			Less-than-significant impact		

3.8.1 Thresholds of Significance

The TCAPCD has not established a quantitative significance threshold for greenhouse gas (GHG) emissions, but suggests using 900 metric tons of CO₂ equivalent emissions (CO₂e) as a screening criterion for determining whether additional analysis is needed (TCAPCD 2015).

3.8.2 Environmental Setting

Tehama County has set GHG reduction goals of 5 percent below 2008 levels by 2020, and 10 percent below by 2028. (Red Bluff Daily News 2014).

3.8.3 Discussion

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

Less-than-significant impact. The project includes constructing an erosion repair. Construction would take place over approximately 1 month, and would include limited equipment, including a water truck, excavator, grader, loader, and four pick-up trucks. Construction would also require daily travel to and from the site by construction workers, and transport of materials to the project site, and spoils from the project site. Because of the small amount of equipment and the short duration of the project activities, the total CO₂e emissions would be less than 100 metric tons (See Appendix A) compared to a screening level of 900 metric tons recommended by TCAPCD. The project would not make a cumulatively considerable incremental contribution to a significant cumulative impact related to GHG emissions. This impact would be less than significant.

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

Less-than-significant impact. The project’s low (less than 100 metric tons) and temporary construction emissions would not impair the County’s ability to meet its GHG reduction goals of 10 percent below 2008 emissions by 2028. The project would not conflict with plans, policies, or regulations adopted to reduce GHG emissions. The project’s small incremental contribution to the significant cumulative

impact of increasing atmospheric levels of GHGs would be less than cumulatively considerable. This impact would be less than significant.

3.9 Hazards and Hazardous Materials

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
IX. HAZARDS AND HAZARDOUS MATERIALS.					
Would the project:					
cc) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		Less-than-significant impact with mitigation incorporated			
dd) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		Less-than-significant impact with mitigation incorporated			
ee) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				No impact	
ff) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				No impact	
gg) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				No impact	
hh) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				No impact	
ii) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			Less-than-significant impact		

3.9.1 Thresholds of Significance

The thresholds of significance for hazards and hazardous materials are based on the Appendix G checklist questions.

3.9.2 Environmental Setting

No Cortese-listed sites (DTSC 2020, SWRCB 2020, Cal/EPA 2020), schools, or airports are located within 2 miles of the project site. The project site is located in a Local Responsibility Area for fire

protection. Nearby areas in the State Responsibility Area are designated as moderate fire hazard severity zones. (CalFIRE 2007)

3.9.3 Discussion

- a), b) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment**

Less-than-significant impact with mitigation incorporated. The project site does not contain any known hazardous materials. The project would likely result in some excess material that may need to be disposed of offsite at an approved facility (see Section 3.19, “Utilities and Service System” for a discussion of material disposal). Project-related construction activities would include use and storage of small amounts of hazardous substances necessary for the operation of construction equipment, such as fuels, lubricants, and oils. Project activities would not involve use of acutely hazardous materials, and construction contractors would be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations during project construction. However, accidental spills could occur during construction activities. Therefore, this impact would be **potentially significant**. Mitigation Measure GEO-1 has been identified to address this impact.

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

Please *refer to* Mitigation Measure GEO-1 in Section 3.7 “Geology and Soils,” for the full text of this mitigation measure.

Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal to a **less-than-significant level with mitigation incorporated** because a SWPPP or SWMP would be prepared and implemented. The SWPPP or SWMP would include a spill prevention, control, and countermeasure plan, and would identify the types of materials used for equipment operation (including fuel and hydraulic fluids), along with measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP would also identify emergency procedures for responding to spills.

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

No impact. There are no schools within 0.25 mile of the project site.

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

No impact. The project site is not included on the Cortese list.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

No impact. The project site is not located within 2 miles of any airport.

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

No impact. The project would not require the closure of any public roadway, and the small number of project related trips would not result in traffic delays that could interfere with an emergency response or evacuation plan.

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

Less-than-significant impact. The project site is not located in SRA or an area identified as a very high fire hazard severity zone. Construction activities would occur along levees where riparian vegetation is present and adjacent lands are mostly irrigated orchards and pasture. These vegetation and land use types have a low potential for wildland fires. Therefore, the proposed project would not result in significant increase in risk of fire that would expose people or structures to a significant risk of loss, injury or death involving wildland fires, and impacts would be less than significant.

3.10 Hydrology and Water Quality

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
X. HYDROLOGY AND WATER QUALITY.					
Would the project:					
jj) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		Less-than-significant impact with mitigation incorporated			
kk) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				No impact	
ll) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
i) result in substantial erosion or siltation on- or off-site;		Less-than-significant impact with mitigation incorporated			
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			Less-than-significant impact		
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			Less-than-significant impact		
iv) impede or redirect flood flows?			Less-than-significant impact		
mm) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				No impact	
nn) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				No impact	

3.10.1 Thresholds of Significance

The thresholds of significance for hydrology and water quality are based on the Appendix G checklist questions.

3.10.2 Environmental Setting

The project site is located in an area designated as “Zone A, special flood hazard area without base flood elevation,” by the Federal Emergency Management Agency (FEMA 2020).

The project site is located in the Los Molinos groundwater basin, which is a medium-priority basin under the Sustainable Groundwater Management Act (Tehama County 2020).

3.10.3 Discussion

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

Less-than-significant impact with mitigation incorporated. During construction, both direct and indirect discharges associated with ground-disturbing project activities could introduce soil or other construction materials to surface water. Project activities could temporarily impair water quality. If disturbed material, petroleum products, or construction-related wastes are discharged into surface drainages or onto the ground, where they could be carried into receiving waters. Accidental spills of construction-related substances, such as oils and fuels, could also contaminate both surface water and groundwater. The extent of potential impacts on water quality would depend on several factors, including the tendency toward erosion of soil types encountered, soil chemistry, construction practices, extent of disturbed area, duration of construction activities, proximity to receiving water bodies, and sensitivity of those water bodies to construction-related contaminants.

Surface soils could be exposed to wind and water erosion during construction activities. If precautions are not taken to contain these materials, construction activities could produce sediment-laden storm runoff that would degrade water quality. Exposure of construction materials to rain or wind could also result in adverse water quality impacts, although construction activities would generally occur during the dry season. Regardless of construction timing, direct and indirect impacts to water quality from erosion and stormwater runoff, and ponding during storm events, have the possibility to occur and result in a **potentially significant** impact. Mitigation Measure GEO-1 has been identified to address this impact.

Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

Please refer to Mitigation Measure GEO-1 in Section 3.7, “Geology and Soils,” for the full text of this mitigation measure.

Implementation of Mitigation Measure GEO-1 would include measures to prevent and manage soil erosion and sediment-laden stormwater runoff that could degrade water quality during construction. Therefore, potential impacts to surface water quality from the project would be a **less-than-significant impact with mitigation incorporated.**

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

No impact. The proposed project would not alter hydrology, pump groundwater, construct impermeable surfaces, or otherwise interfere with groundwater recharge.

- 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 which would:**
- i) **Result in substantial erosion or siltation on- or off-site;**
 - ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**
 - 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**
 - iv) **Impede or redirect flood flows?**

Less-than-significant impact with mitigation incorporated. The project would not alter the hydrology of Deer Creek, introduce new impervious surfaces, or change drainage patterns. The project would restore the flood capacity of the levee to better accommodate high-water events. By restoring the flood capacity of the SPFC levee, the risk of flooding from high-water events would be reduced.

During construction of the project, excavation could occur below the water line, and a turbidity curtain would be installed to reduce downstream effect. Temporary changes within the stream channel during construction could nevertheless result in **potentially significant** erosion or siltation impacts. Because construction would occur during the dry season, the project would not increase the rate or amount of runoff or redirect flood flows. Mitigation Measure GEO-1 has been identified to address this impact.

Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

Please refer to Mitigation Measure GEO-1 in Section 3.7, “Geology and Soils,” for the full text of this mitigation measure.

Implementation of Mitigation Measure GEO-1 would include measures to prevent and manage soil erosion and sediment-laden stormwater runoff that could degrade water quality during construction. Therefore, potential impacts on drainage patterns from the project would be a **less-than-significant impact with mitigation incorporated.**

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

No impact. The project activities would not be located in tsunami or seiche hazard zones. The repair sites would be located in zones protected from flooding by the SPFC and would not be exposed to flood hazards during the timing of construction activities.

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

No impact. Please refer to the discussion above under Impacts a), b), and c). The project would not result in other effects that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.11 Land Use and Planning

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XI. LAND USE AND PLANNING.					
Would the project:					
oo) Physically divide an established community?				No impact	
pp) 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?				No impact	

3.11.1 Thresholds of Significance

The thresholds of significance for land use and planning are based on the Appendix G checklist questions.

3.11.2 Environmental Setting

The project site is located in a rural area outside of any established community. Surrounding land uses are agricultural.

3.11.3 Discussion

a) Physically divide an established community?

No impact. Proposed project construction activities would occur along an existing levee in a rural agricultural area and therefore would not divide an established community.

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?

No impact. The project construction activities would be limited to repairs of the existing levee and activities at proposed staging areas. Construction activities would be temporary and there would be no change in land use that would conflict with existing land use designations. The proposed project would not result in conflict with local or State regulations.

3.12 Mineral Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XII. MINERAL RESOURCES.					
Would the project:					
qq) 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?				No impact	
rr) 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?				No impact	

3.12.1 Thresholds of Significance

The thresholds of significance for mineral resources are based on the Appendix G checklist questions.

3.12.2 Environmental Setting

The project site is located in an area zoned MRZ-3b for sand and gravel (Foster 2001). This designation indicates that the area has inferred mineral occurrences of undetermined mineral resource significance. The Tehama County General Plan (Tehama County 2009) does not identify locally important mineral resource recovery sites.

The nearest existing mines (Deer Creek Mine and Vina Quarry) are located to the north and east of the project site, outside the agricultural areas along Deer Creek (Tehama County 2020).

3.12.3 Discussion

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?

No impact. The project would repair an existing flood control facility and would not change any land uses or render any mineral resource unavailable.

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?

No impact. Tehama County has not specifically identified locally important mineral resource recovery sites. Based on mapping provided by the County's Surface Mining and Reclamation Act program, the project would not affect existing mineral resource extraction activities which are located to the north and east of the project site, outside the agricultural areas along Deer Creek.

3.13 Noise

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XIII. NOISE.					
Would the project:					
ss) 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 in other applicable standards of other agencies?			Less-than-significant impact		
tt) Generation of excessive groundborne vibration or groundborne noise levels?			Less-than-significant impact		
uu) 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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				No impact	

3.13.1 Thresholds of Significance

Tehama County has not established acceptable noise levels in a noise ordinance. The thresholds of significance for noise are based on the Appendix G checklist questions.

3.13.2 Environmental Setting

Noise is defined as excessive, unwanted, unexpected, or unpleasant sound. The primary existing sources of noise in the vicinity of the project site are agricultural operations, which can include large equipment operations.

Noise impacts are typically described as the effect on noise-sensitive land uses that are located within hearing range of a noise-producing activity. These noise-sensitive land uses are referred to as sensitive receptors and include residences, schools, hospitals, child-care facilities, and other similar land uses where noise could affect health or safety. A sensitive receptor’s response to noise can vary depending on existing background (ambient) noises and the intensity, duration, frequency, and timing of the noise. In general, the more that a noise exceeds the existing ambient noise level, intensity, duration, or frequency, the less acceptable the new noise will be, as judged by the exposed receptor. Sensitive receptors in the vicinity of the project site include rural residences associated with the surrounding agricultural lands. The nearest residence is approximately 1,500 feet southeast of work areas.

3.13.3 Discussion

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?**

Less-than-significant impact. The Noise Element of the Tehama County General Plan recommends the adoption of a County-wide noise control ordinance that would restrict construction activities to certain hours; however, Tehama County does not yet have an adopted noise ordinance (Tehama County 2009). Therefore, construction-related noise levels would not exceed established standards. During construction of the proposed project, a temporary increase in noise levels over ambient conditions would be created by heavy equipment. This increase would be minimal, would not be at a level that would substantially increase ambient noise levels at sensitive receptors, and would only be created during daylight hours. The distance from the nearest receptor (1,500 feet) would attenuate construction noise levels. Noise impacts would be less than significant.

- b) **Generation of excessive groundborne vibration or groundborne noise levels?**

Less-than-significant impact. Ground-borne vibration from construction activities would produce negligible vibration. The types of construction equipment associated with proposed repair activities include an excavator, loader, grader, and water truck. This type of equipment is not identified by the California Department of Transportation (2013) or the United States Department of Transportation (2006) as associated with generation of notable vibration. Furthermore, construction activities would take place more than 1,500 feet from the nearest residence, which would provide ample distance for attenuation of any vibration. Therefore, this impact would be less than significant.

- 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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

No impact. The project site is not located within 2 miles of an airport or airstrip.

3.14 Population and Housing

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XIV. POPULATION AND HOUSING.					
Would the project:					
vv) 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)?				No impact	
ww) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				No impact	

3.14.1 Thresholds of Significance

The thresholds of significance for population and housing are based on the Appendix G checklist questions.

3.14.2 Environmental Setting

The project site is located in a rural, agricultural area approximately 25 miles from Chico, California. The nearest community is Vina, approximately 4 miles southwest of the project site.

3.14.3 Discussion

- 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)?**

No impact. No new homes, businesses, road extensions, or other infrastructure for development are proposed as part of the proposed project. The proposed project would temporarily employ contractors from within the region. Accordingly, the proposed project would not induce population growth in the area and would not affect nearby cities or towns.

- b) **Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No impact. The repair site, staging areas, and access road are located on agriculturally designated lands, and no occupied structures would be removed as part of the project. Consequently, the proposed project would not displace any existing homes or people, and construction of replacement housing would not be required.

3.15 Public Services

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XV. PUBLIC SERVICES.					
Would the project:					
xx) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:					
Fire protection?				No impact	
Police protection?				No impact	
Schools?				No impact	
Parks?				No impact	
Other public facilities?				No impact	

3.15.1 Thresholds of Significance

The thresholds of significance for public services are based on the Appendix G checklist questions.

3.15.2 Environmental Setting

The project site is located in unincorporated Tehama County. There are no facilities associated with public services on the project site.

3.15.3 Discussion

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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, including fire protection, police protection, schools, parks, or other public facilities?**

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

3.16 Recreation

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XVI. RECREATION.					
Would the project:					
yy) 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?				No impact	
zz) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				No impact	

3.16.1 Thresholds of Significance

The thresholds of significance for recreation are based on the Appendix G checklist questions.

3.16.2 Environmental Setting

There are no recreational facilities on or in proximity to the project site.

3.16.3 Discussion

- 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?**

No impact. The proposed project would not result in the construction of new occupied facilities or an increase in population; therefore, there would be no increased use of parks or recreational facilities.

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

No impact. The project does not include recreational facilities and because the project would not result in an increase in population, it would not require construction or expansion of facilities.

3.17 Transportation

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XVII. TRANSPORTATION.					
Would the project:					
aaa) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			Less-than-significant impact		
bbb) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			Less-than-significant impact		
ccc) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				No impact	
ddd) Result in inadequate emergency access?				No impact	

3.17.1 Thresholds of Significance

The thresholds of significance for transportation are based on the Appendix G checklist questions.

3.17.2 Environmental Setting

The project site is located in rural Tehama County. The nearest public roadway is Leininger Road, with other nearby roadways including Vina Road and SR 99. Surrounding uses generally include agricultural uses and mineral resource extraction.

3.17.3 Discussion

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less-than-significant impact. Construction traffic serving the project would travel via SR-99, Leininger Road, and Lassen Road or Vina Road. Traffic would briefly increase when heavy equipment would be transported to and from the project site at the beginning and end of construction, and when soil and other material would be transported to the site. Daily travel by construction workers to the site would be less than 10 trips. Because of the small number of project-related trips that would be added to nearby roadways and the temporary nature of this effect, there would be no significant impact related to conflict with plans, ordinances, or policies addressing the transportation system.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less-than-significant impact. The project would result in temporary construction trips, but would not result in any long-term change in vehicle miles traveled.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No impact. The project site would not change any roadway design features, and implementing the project would not introduce incompatible vehicles to the surrounding roadways.

d) Result in inadequate emergency access?

No impact. The project would not require the closure of any public roadway, and the small number of project-related trips would not result in traffic delays that could impair emergency access.

3.18 Tribal Cultural Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XVIII. TRIBAL CULTURAL RESOURCES.					
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p>					
<p>eee) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or</p>	<p>Less-than-significant impact with mitigation incorporated</p>				
<p>fff) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<p>Less-than-significant impact with mitigation incorporated</p>				

3.18.1 Thresholds of Significance

3.18.2 Environmental Setting

Please refer to the “Ethnographic Setting” in Section 3.5, “Cultural Resources.”

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

Pursuant to PRC 21080.3.1(b), prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe submitted a request to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and if that tribe responds to the agency’s invitation to consult on the project within 30 calendar days of receiving an invitation to consult on a project. No requests for formal notification of proposed projects in the vicinity of the project site have been received by the District

from California Native American tribes pursuant to PRC 21080.3.1(b); therefore, no formal consultation under PRC 21080.3.1-21080.3.2 was conducted.

On behalf of the District, GEI sent a letter request to the NAHC on December 8, 2020 asking for a search of its Sacred Lands File (SLF) for the project location and its vicinity. GEI has not received a response to the request to date. GEI will follow up with any Native American individuals and/or groups that the NAHC may suggest having additional information on the project area.

3.18.3 Discussion

a), b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1?

Less-than-significant impact with mitigation incorporated. TCRs are (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either in or eligible for inclusion in the CRHR or a local historic register; or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, chooses to treat as a TCR. A cultural landscape may qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in PRC Section 21084.1), unique archaeological resources (as defined in PRC Section 21083.2[g]), and non-unique archaeological resources (as described in PRC Section 21083.2[h]) may also be TCRs, if they meet CRHR eligibility criteria.

No Native American Tribes have provided information regarding TCRs on or near the project site, and none are known to occur. The possibility remains that during project activities and continuing consultation with Native American Tribes TCRs could be identified on the project site. If such resources are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by project implementation. This would be a **potentially significant** impact.

Mitigation Measures CR-1 and CR-2 have been identified to address this impact.

Mitigation Measure CR-1: Implement Procedures for Inadvertent Discovery of Cultural Material.

Please refer to Mitigation Measure CR-1 in Section 3.5 “Cultural Resources,” for the full text of this mitigation measure.

Mitigation Measure CR-2: Avoid Potential Effects to Previously Unknown Human Remains.

Please refer to Mitigation Measure CR-2 in Section 3.5 “Cultural Resources,” for the full text of this mitigation measure.

Implementing Mitigation Measures CR-1 and CR-2 would reduce the potentially significant impacts to TCRs to a **less-than-significant impact with mitigation incorporated** level because impacts to TCRs would be avoided or appropriate treatment measures would be developed and implemented.

3.19 Utilities and Service Systems

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XIX. UTILITIES AND SERVICE SYSTEMS.					
Would the project:					
ggg) 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?				No impact	
hhh) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				No impact	
iii) Result in a determination by the wastewater treatment provider that 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?				No impact	
jjj) 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?			Less-than-significant impact		
kkk) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?			Less-than-significant impact		

3.19.1 Thresholds of Significance

The thresholds of significance for utilities and service systems are based on the Appendix G checklist questions.

3.19.2 Environmental Setting

The project site is located in a rural agricultural area and is not served by utility services. The Tehama County Landfill in Red Bluff is permitted to receive construction/demolition waste.

3.19.3 Discussion

- 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?**

No impact. The proposed project would not result in the relocation or construction of new facilities for stormwater, wastewater, or other utilities or result in population increase that would generate increased demand utilities.

- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**

No impact. The proposed project would not require connection to a water supply.

- c) Result in a determination by the wastewater treatment provider that 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?**

No impact. The proposed project would not require connection to a wastewater system.

- 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?**

Less-than-significant impact. The project would generate solid waste during construction. This material would be hauled offsite to the Tehama County Landfill, which has adequate capacity and is permitted to receive construction and demolition materials. This impact would be less than significant.

- e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?**

Less-than-significant impact. The amount of solid waste generated by the proposed project would be minimal, would not exceed capacity or impair the attainment of solid waste reduction goals, and would comply with Federal, State, and local statutes related to solid waste. This impact would be less than significant.

3.20 Wildfire

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XX. WILDFIRE.					
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
III) Substantially impair an adopted emergency response plan or emergency evacuation plan?				No impact	
mmm) 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?				No impact	
nnn) 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?				No impact	
ooo) 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?					Beneficial Impact

3.20.1 Thresholds of Significance

The thresholds of significance for wildfire are based on the Appendix G checklist questions.

3.20.2 Environmental Setting

The project site is located in a Local Responsibility Area. Nearby areas in the State Responsibility Area are designated as moderate fire hazard severity zones. (CalFIRE 2007.)

3.20.3 Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No impact. The project site is not located in a State Responsibility Area or an area identified as a very high fire hazard severity zone. The project would not require the closure of any public roadway, and the small number of project-related trips would not result in traffic delays that could impair emergency access.

- 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?**

No impact. The project site is not located in a State Responsibility Area or an area identified as a very high fire hazard severity zone.

- 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?**

No impact. The project site is not located in a State Responsibility Area or an area identified as a very high fire hazard severity zone. No power lines or other features that would exacerbate fire risk would be constructed as part of the project.

- 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?**

Beneficial impact. The project site is not located in a State Responsibility Area or an area identified as a very high fire hazard severity zone. The project includes repair of prior erosion damage and would not result in greater risks related to flooding or landslides; the proposed project would have a beneficial effect by reducing flood risks at the project site.

3.21 Mandatory Findings of Significance

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.					
Would the project:					
ppp) 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?		Less-than-significant impact with mitigation incorporated			
qqq) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		Less-than-significant impact with mitigation incorporated			
rrr) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		Less-than-significant impact with mitigation incorporated			

3.21.1 Discussion

- a) **Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

Less-than-significant with mitigation incorporated. The proposed project would involve temporary construction activities to repair an eroded levee and reduce flood risk, thus providing a net benefit to the surrounding area. Operations and maintenance at the project site would be limited and unchanged from existing conditions. The proposed project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce or restrict the range of rare or endangered plants or animals; or, eliminate important examples of the major periods of California history or prehistory. As discussed in the analyses provided in Sections 3.1 through 3.20 of this document, adherence to Federal, State, and local regulations, and proposed

mitigation measures BIO-1 through BIO-11, CR-1, CR-2, and GEO-1 would reduce potentially significant impacts to biological resources, cultural resources, and TCRs to less-than-significant levels.

- b) Would the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

Less-than-significant with mitigation incorporated. As discussed in Sections 3.1 through 3.20 of this document, the potential impacts of the proposed project would be site-specific, temporary, and short-term construction-related impacts. All potential direct and indirect impacts of the proposed project were determined to be fully avoided, minimized, or reduced to a less-than-significant level with incorporation of mitigation measures AQ-1, BIO-1 through BIO- 11, CR-1, CR-2, and GEO-1. As a result, the potential impacts of the proposed project are not considered to be a cumulatively considerable incremental contribution to any significant cumulative impacts. Therefore, cumulative impacts with past, present, and probably future projects would be less than significant.

- c) Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

Less-than-significant with mitigation incorporated. The potential impacts of the proposed project would be site-specific, temporary, and short-term construction-related impacts. These impacts may include limited adverse effects on biological resources, cultural resources, and TCRs. However, the proposed project would not include activities or uses that may cause substantial adverse effects on human beings, either directly or indirectly, or on the physical environment. The proposed project has been designed to meet applicable flood engineering standards and would adhere to local codes and regulations as conditions of project approval. Compliance with applicable local, State, and Federal standards, as well as implementation of proposed mitigation measures AQ-1, BIO-1 through BIO- 11, CR-1, CR-2, and GEO-1 would result in less-than-significant impacts.

Chapter 4. References Cited

- Arnold, Joseph L. 1988. The Evolution of the 1936 Flood Control Act. Office of History, United States Army Corps of Engineers, Fort Belvoir, VA.
- Baumhoff, M. A. 1957. An Introduction to Yana Archaeology. The University of California Archaeological Survey, No. 40, Dept. of Anthropology, University of California, Berkeley 4 California. Greenway 1982.
- Blackie, E.E., Thomas H. Means, and H. M. Rich. 1953. "Report to the State Reclamation Board on the Sacramento River Flood Control Project (known as the Old Project)." On file at the California State Archives, Sacramento, CA.
- California Department of Conservation. 2020. EQ Zapp: Earthquake Hazards Zone Application. Available: <https://www.conservation.ca.gov/cgs/geohazards/eq-zapp>. Accessed: December 17, 2020.
- California Department of Fish and Wildlife. 2020. RareFind 5 (Commercial Version): An Internet Application for the Use of the California Natural Diversity Database. Biogeographic Data Branch, California Department of Fish and Wildlife, Sacramento, CA. Available online: <https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data> [accessed November 5, 2020].
- California Department of Forestry and Fire Protection. 2007. Tehama County Fire Hazard Severity Zones in SRA. Available at: https://osfm.fire.ca.gov/media/6839/fhszs_map52.pdf. Accessed: December 15, 2020.
- California Department of Toxic Substances Control. 2020. Hazardous Waste and Substances Site List (Cortese). Available: <https://www.envirostor.dtsc.ca.gov/public/search.asp>. Accessed: December 17, 2020
- California Department of Transportation. 2013. Transportation and Vibration Guidance Manual. September 2013. Available: <https://www.placer.ca.gov/DocumentCenter/View/8273/Caltrans-2013-Transportation-and-Construction-Vibration-Guidance-Manual-PDF>. Accessed December 18, 2020.
- California Department of Water Resources. 2014. "NRHP and CRHR Evaluation of Sub-Unit 1 of Unit 26 of the Sacramento River Flood Control Project Levee for the Cache Creek Setback Levee LM 2.8L Project." Yolo County, California.
- California Energy Commission. 2020. Electricity Consumption by County. Available: <https://ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed: December 17, 2020.

- California Environmental Protection Agency. 2020. Cortese List. Available: <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>. Accessed: December 17, 2020.
- California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available online: <http://www.rareplants.cnps.org> [accessed November 5, 2020].
- CDFW. See California Department of Fish and Wildlife.
- CNPS. See California Native Plant Society.
- Deitz, F. 1999. Cultural Resources Assessment on Deer Creek, Tehama County, California. On file, California Historical Resources Information System (CHRIS), Northeast Information Center (NEIC). NEIC Report number S-003613.
- Dubois, C. 1935. Wintu Ethnography. In University of California Publications in American Archaeology and Ethnology 3(1): 1-148. Berkeley.
- DOC. 2016. California Important Farmland Finder. Available: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed: December 11, 2020.
- DWR. See California Department of Water Resources
- FEMA. 2020. FEMA Flood Map Service Center: Search by Address. Available: <https://msc.fema.gov/portal/search?AddressQuery=vina%2C%20ca#searchresultsanchor>. Accessed: December 18, 2020.
- Foster, Brent D. 2001. California Division of Mines and Geology Open-File Report 2000-18 Plate 3: Map of Mineral Resource Zones (MRZ) Classified for Concrete Aggregate in Tehama County (Southern Half). Available at: <https://filerequest.conservation.ca.gov/RequestFile/58011>. Accessed: December 11, 2020.
- Goldschmidt, W. 1951 Nomlaki Ethnography. University of California Publications in American Archaeology and Ethnology. 42(4): 303-443. Berkeley.
1978. Nomlaki. In Handbook of North American Indians (vol. 8), edited by Robert F. Heizer, pp. 341-349. Smithsonian Institution, Washington, D.C.
- Goodman, D.H. and S.B. Reid. 2012. Pacific Lamprey (*Entosphenus tridentatus*) Assessment and Template for Conservation Measures in California. U.S. Fish and Wildlife Service, Arcata, California. 117 pp.
- Gudde, Erwin G. California Place Names; The Origin and Etymology of Current Geographical Names. University of California Press, Berkeley, CA.
- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. *Bombus crotchii*. The IUCN Red List of Threatened Species 2015: e.T44937582A46440211. <https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937582A46440211.en>.

- Hoover, Mildred Brooke and Douglas E. Kyle. 1990. *Historic Spots in California*. Stanford University Press, Stanford, CA.
- Johnson, J. J. N.D. *Archaeological Investigations in Northeastern California (1939- 1979)*. Ms. on file at the Department of Anthropology, California State University, Sacramento.
- Jones, Gerald H. 1967. "Alteration of the Regimen of Sacramento River and Tributary Streams Attributable to Engineering Activities During the Past 116 Years." Prepared for the Historical Records of Sacramento Section American Society of Civil Engineers, Sacramento, CA.
- Kochis, Frank. 1963. *History of Development of the Sacramento River Flood Control Project*.
- Kroeber, A. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.
- _____. 1932. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.
- Martinez, Amanda L. and Nancy E. Sikes. 2008. *Cultural Resources Survey for the Levee Repair Project at 20 Locations in Colusa, Sacramento, Sutter, Tehama, and Yolo Counties, California*. On File at the Northeast Information Center (NEIC-009874).
- Meyer, J. 2008. *The Potential for Buried Archaeological Resources along Part of State Route 99, Tehama County, California*. Prepared for Caltrans District 2. On File California Department of Transportation District 2, Redding, CA.
- Moratto, Michael J. 1984 *California Archaeology*. Academic Press, Orlando, Florida.
- Moyle, P., R. Lusardi, P. Samuel, and J. Katz. 2017. *State of the Salmonids: Status of California's Emblematic Fishes 2017*. Center of Watershed Sciences, University of California, Davis and California Trout, San Francisco, CA. 579 pp.
- O'Neill, Karen. M. 2006a. "Levee Troubles: The Cost of Making the Sacramento Valley Into An Agricultural Giant." *Sacramento History Journal* 6 (1-4).
- Red Bluff Daily News. 2014. Tehama County sets greenhouse gas emissions goals. Available; <https://www.redbluffdailynews.com/2014/07/24/tehama-county-sets-greenhouse-gas-emissions-goals/>. Accessed: December 18, 2020.
- Riddell, F. 1978. Maidu and Konkow. In *Handbook of North American Indians* (vol. 8), edited by Robert F. Heizer, pp. 370-386. Smithsonian Institution, Washington, D.C.
- State Water Resources Control Board. 2020. Geotracker Available: <https://geotracker.waterboards.ca.gov/map/>. Accessed: December 17, 2020.
- Tehama County Air Pollution Control District. 2015. *Air Quality Planning and Permitting Handbook: Guidelines for Assessing Air Quality Impacts*. Available: <http://tehcoapcd.net/PDF/CEQA%20Handbook%20Mar%202015%20Final.pdf>. Accessed: December 10, 2020.

- Tehama County 2020. (Tehama County 2011) Crop Reports. 2019. Available at: <http://www.co.tehama.ca.us/gov-departments/agriculture>. Accessed December 14, 2020.
- Tehama County. 2009. Tehama County General Plan 2009-2029. Available: <https://tehamartpa.org/wp-content/uploads/2020/06/2009-2029-Tehama-County-General-Plan-r1.pdf>. Accessed: December 11, 2020
- Tehama County. 2009. Tehama County/Red Bluff Landfill Acceptance Policy. Available at: <https://www.co.tehama.ca.us/images/stories/landfill/Landfill%20Acceptance%20Policy.pdf>. Accessed: December 14, 2020.
- Tehama County. 2020. Mine Locations in Tehama County. Available at: http://www.co.tehama.ca.us/images/stories/planning/Tehama_County_MinesF.jpg. Accessed: December 11, 2020.
- Tehama County. 2020. Tehama County Groundwater Basins. Available: <http://www.tehamacountypublicworks.ca.gov/flood/sgma/sgma%20map.jpg>. Accessed: December 18, 2020.
- U.S. Army Corps of Engineers. 1957. “Operations and Maintenance Manual for Deer Creek. With updates to 2017.” On file at California Department of Water Resources, West Sacramento.
- U.S. Department of Agriculture. 2020. Web Soil Survey: Soil Map – Tehama County, California. Available: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed: December 17, 2020.
- U.S. Department of Transportation, Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Accessed: December 18, 2020.
- U.S. Fish and Wildlife Service. 1996. Federal Register: Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-legged Frog. 50 CFR. Part 17. Vol. 61. No. 101:25813–25833. May 23, 1996.
- _____. 2020. Information for Planning and Conservation. Available online at: <http://ecos.fws.gov/ipac/>. Accessed October 22, 2020.
- USACE. See U.S. Army Corps of Engineers
- USFWS. See U.S. Fish and Wildlife Service.
- Waugh, G. 1995. Historic Property Survey Report Proposed Bridge Replacement and Curve Realignment on State Highway 36 in Tehama County, California. Report submitted to California Department of Transportation, Redding, California.
- Wiant, Wayne 1981. Southern Yana Subsistence and Settlement: An Ecological Model. M.A. Thesis, California State University, Sacramento.

Chapter 5. Report Preparers

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Denise Jurich, RPA; Jesse Martinez, RPA; Gary Scholze, Madeline Bowen.....	Cultural Resources and Tribal Cultural Resources
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Marguerite Myers.....	Document Preparation

Appendix A. Biological Resources Database Search Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Tehama County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

Yellow-billed Cuckoo *Coccyzus americanus*

Threatened

There is **proposed** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/3911>

Reptiles

NAME

STATUS

Giant Garter Snake *Thamnophis gigas*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4482>

Amphibians

NAME

STATUS

California Red-legged Frog *Rana draytonii*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/2891>

Fishes

NAME

STATUS

Delta Smelt *Hypomesus transpacificus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Conservancy Fairy Shrimp *Branchinecta conservatio*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/8246>

Vernal Pool Fairy Shrimp *Branchinecta lynchi* Threatened
 There is **final** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii* Endangered
 There is **final** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/2246>

Flowering Plants

NAME	STATUS
Greene's Tuctoria <i>Tuctoria greenii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1573	Endangered
Hairy Orcutt Grass <i>Orcuttia pilosa</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2262	Endangered
Hoover's Spurge <i>Chamaesyce hooveri</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3019	Threatened
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any

week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

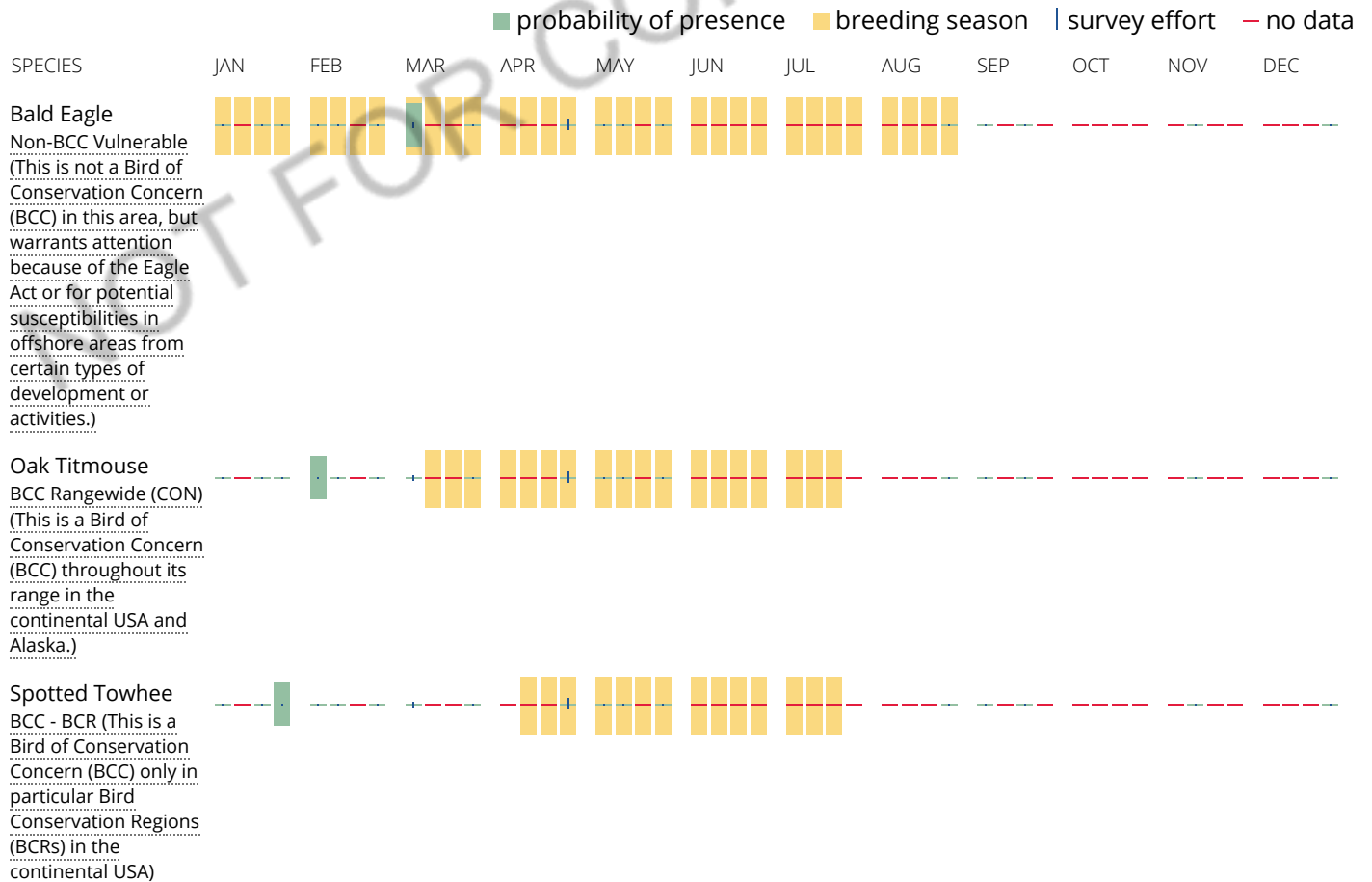
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Yellow-billed
Magpie
BCC Rangewide (CON)
(This is a Bird of
Conservation Concern
(BCC) throughout its
range in the
continental USA and
Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1A](#)

RIVERINE

[R2UBH](#)

[R2UBHx](#)

[R2USC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Vina) OR Corning (3912282) OR Richardson Springs NW (3912188) OR Gerber (4012212) OR Los Molinos (4012211) OR Acorn Hollow (4012118) OR Kirkwood (3912272) OR Foster Island (3912271) OR Nord (3912178)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atractelmis wawona Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Central Valley Drainage Fall Run Chinook Stream Central Valley Drainage Fall Run Chinook Stream	CARA2442CA	None	None	GNR	SNR	
Central Valley Drainage Hardhead/Squawfish Stream Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Central Valley Drainage Spring-Run Chinook Stream Central Valley Drainage Spring-Run Chinook Stream	CARA2431CA	None	None	GNR	SNR	
Central Valley Drainage Valley Floor River Central Valley Drainage Valley Floor River	CARA2441CA	None	None	GNR	SNR	
Clarkia gracilis ssp. albicaulis white-stemmed clarkia	PDONA050J1	None	None	G5T3	S3	1B.2
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Cryptantha crinita silky cryptantha	PDBOR0A0Q0	None	None	G2	S2	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Euphorbia hooveri Hoover's spurge	PDEUP0D150	Threatened	None	G1	S1	1B.2
Euphorbia ocellata ssp. rattanii Stony Creek spurge	PDEUP0D1P1	None	None	G4T2?	S2?	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Willow Scrub Great Valley Willow Scrub	CTT63410CA	None	None	G3	S3.2	
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Lanx patelloides kneecap lanx	IMGASL7030	None	None	G2?	S2	
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardii vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Limnanthes floccosa ssp. californica Butte County meadowfoam	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
Limnanthes floccosa ssp. floccosa woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 6 chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S2	
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
Orcuttia pilosa hairy Orcutt grass	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Paronychia ahartii</i> Ahart's paronychia	PDCAR0L0V0	None	None	G3	S3	1B.1
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<i>Tuctoria greenei</i> Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 69

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

27 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 4012212, 4012211, 4012118, 3912282, 3912281, 3912188, 3912272 3912271 and 3912178;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Remove Photos](#)

Scientific Name	Common Name	Federal Listing Status	State Listing Status	CA Rare Plant Rank	Family	Lifeform	Blooming Period	Habitats	Lowest Elevation	Highest Elevation	Photo
Agrostis hendersonii	Henderson's bent grass			3.2	Poaceae	annual herb	Apr-Jun	<ul style="list-style-type: none"> Valley and foothill grassland (mesic) Vernal pools 	70 m	305 m	 2005 Steve Matson
Astragalus pauperculus	depauperate milk-vetch			4.3	Fabaceae	annual herb	Mar-Jun	<ul style="list-style-type: none"> Chaparral Cismontane woodland Valley and foothill grassland 	60 m	1215 m	 1988 Dean Wm. Taylor
Astragalus tener var. ferrisiae	Ferris' milk-vetch			1B.1	Fabaceae	annual herb	Apr-May	<ul style="list-style-type: none"> Meadows and seeps (vernally mesic) Valley and foothill grassland (subalkaline flats) 	2 m	75 m	no photo available
Brodiaea rosea ssp. vallicola	valley brodiaea			4.2	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	<ul style="list-style-type: none"> Valley and foothill grassland (swales) Vernal pools Chaparral (openings) 	10 m	335 m	no photo available
Castilleja rubicundula var. rubicundula	pink creamsacs			1B.2	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	<ul style="list-style-type: none"> Cismontane woodland Meadows and seeps Valley and foothill grassland 	20 m	910 m	no photo available
Clarkia gracilis ssp.	white-stemmed clarkia			1B.2	Onagraceae	annual herb	May-Jul	<ul style="list-style-type: none"> Chaparral 	245 m	1085 m	

[albicaulis](#)

Cismontane woodland



2011 Vernon Smith

[Cryptantha crinita](#)

silky cryptantha

1B.2 Boraginaceae annual herb

Apr-May

• Cismontane woodland
• Lower montane coniferous forest
• Riparian forest
• Riparian woodland
• Valley and foothill grassland

61 m 1215 m



2009 Sierra Pacific Industries

[Downingia pusilla](#)

dwarf downingia

2B.2 Campanulaceae annual herb

Mar-May

• Valley and foothill grassland (mesic)
• Vernal pools

1 m 445 m



2011 Dylan Neubauer

[Erythranthe glaucescens](#)

shield-bracted monkeyflower

4.3 Phrymaceae annual herb

Feb-Aug(Sep)

• Chaparral
• Cismontane woodland
• Lower montane coniferous forest
• Valley and foothill grassland

60 m 1240 m



2007 George W. Hartwell

[Euphorbia hooveri](#)

Hoover's spurge

FT

1B.2 Euphorbiaceae annual herb

Jul-Sep(Oct)

• Vernal pools

25 m 250 m



2010 Chris Winchell

[Euphorbia ocellata ssp. rattanii](#)

Stony Creek spurge

1B.2 Euphorbiaceae annual herb

May-Oct

• Chaparral
• Riparian scrub (streambank)
• Valley and foothill grassland (sandy or rocky)

65 m 800 m

no photo available

[Fritillaria pluriflora](#)

adobe-lily

1B.2 Liliaceae perennial bulbiferous herb

Feb-Apr

• Chaparral
• Cismontane woodland
• Valley and foothill grassland

60 m 705 m



2004 William Sleuter

[Gratiola heterosepala](#) Boggs Lake hedge-hyssop CE 1B.2 Plantaginaceae annual herb Apr-Aug • Marshes and swamps (lake margins) • Vernal pools 10 m 2375 m



2004 Carol W. Witham

[Hesperevax caulescens](#) hogwallow starfish 4.2 Asteraceae annual herb Mar-Jun • Valley and foothill grassland (mesic, clay) • Vernal pools (shallow) 0 m 505 m



2009 Barry Rice

[Lasthenia glabrata ssp. coulteri](#) Coulter's goldfields 1B.1 Asteraceae annual herb Feb-Jun • Marshes and swamps (coastal salt) • Playas • Vernal pools 1 m 1220 m



2003 Dean Wm. Taylor

[Legenere limosa](#) legenere 1B.1 Campanulaceae annual herb Apr-Jun • Vernal pools 1 m 880 m



1993 Dean Wm. Taylor

[Limnanthes floccosa ssp. californica](#) Butte County meadowfoam FE CE 1B.1 Limnanthaceae annual herb Mar-May • Valley and foothill grassland (mesic) • Vernal pools 46 m 930 m



2001 Robert E. Preston, Ph.D.

[Limnanthes floccosa ssp. floccosa](#) woolly meadowfoam 4.2 Limnanthaceae annual herb Mar-May(Jun) • Chaparral • Cismontane woodland • Valley and foothill grassland • Vernal pools 60 m 1335 m



Carol Witham and CNPS

[Navarretia heterandra](#) Tehama navarretia 4.3 Polemoniaceae annual herb Apr-Jun • Valley and foothill grassland (mesic) • Vernal pools 30 m 1010 m



2008 Steve Matson

[Navarretia leucocephala ssp. bakeri](#) Baker's navarretia 1B.1 Polemoniaceae annual herb Apr-Jul • Cismontane woodland • Lower montane coniferous forest • Meadows and seeps 5 m 1740 m



- Valley and foothill grassland
- Vernal pools

2003 Doreen L. Smith

[Navarretia nigelliformis](#) ssp. [nigelliformis](#)

adobe navarretia

4.2

Polemoniaceae

annual herb

Apr-Jun

- Valley and foothill grassland
- vernal mesic
- Vernal pools
- sometimes

100 m

1000 m



2008 Steve Matson

[Orcuttia pilosa](#)

hairy Orcutt grass

FE

CE

1B.1

Poaceae

annual herb

May-Sep

- Vernal pools

46 m

200 m



2003 George W. Hartwell

[Orcuttia tenuis](#)

slender Orcutt grass

FT

CE

1B.1

Poaceae

annual herb

May-Sep(Oct)

- Vernal pools

35 m

1760 m



1991 Dean Wm. Taylor

[Paronychia ahartii](#)

Ahart's paronychia

1B.1

Caryophyllaceae

annual herb

Feb-Jun

- Cismontane woodland
- Valley and foothill grassland
- Vernal pools

30 m

510 m



2004 Carol W. Witham

[Polygonum bidwelliae](#)

Bidwell's knotweed

4.3

Polygonaceae

annual herb

Apr-Jul

- Chaparral
- Cismontane woodland
- Valley and foothill grassland

60 m

1200 m



2010 George W. Hartwell

[Sagittaria sanfordii](#)

Sanford's arrowhead

1B.2

Alismataceae

perennial rhizomatous herb (emergent)

May-Oct(Nov)

- Marshes and swamps (assorted shallow freshwater)

0 m

650 m



2007 Wendy Fisher

[Tuctoria greenei](#)

Greene's tuctoria

FE

CR

1B.1

Poaceae

annual herb

May-Jul(Sep)

- Vernal pools

30 m

1070 m



2008 F. Gauna

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 05 November 2020].

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Appendix B. Cultural Resources Record Search Results

Northeast Center of the
California Historical Resources
Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA

SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

123 West 6th Street, Suite 100
Chico CA 95928
Phone (530) 898-6256
neinfocntr@csuchico.edu

November 16, 2020

Matthew Chouest
Archaeologist
GEI Consultants
2868 Prospect Park Drive, Suite 400
Rancho Cordova, CA 95670

IC File # D20-235
Priority Records Search

RE: Deer Creek Erosion Repair
T24N, R1W, Section 6, MDBM
USGS Vina 7.5' quad
Approximately 2 acres, estimated from project map (Tehama County)

Dear Mr. Chouest,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and surveys in Tehama County. Please note, this search includes the requested ½-mile radius surrounding the project area.

RESULTS:

Prehistoric Resources: According to our records, no resources of this type have been recorded within the project boundaries or ½-mile search radius. The project is located in a region utilized by the Konkow Maidu populations. Unrecorded prehistoric cultural resources may be located within the project area.

Historic Resources: According to our records, no resources of this type have been recorded within the project boundaries or ½-mile search radius. Unrecorded historic cultural resources may be located in the project area.

Previous Archaeological Investigations: According to our records, the project areas have not been previously surveyed for cultural resources. However, portions of the ½-mile search radius have been previously surveyed. GIS Data and Report Details are included. These reports are listed below.

Deitz, Frank (US Army Corps of Engineers)

1999 *Cultural Resources Assessment on Deer Creek, Tehama County,*
NEIC-003613

Martinez, Amanda L. and Nancy E. Sikes (SWCA)

2008 *Cultural Resources Survey for the Levee Repair Project at 20 Locations in Colusa, Sacramento, Sutter, Tehama, and Yolo Counties, California.*
NEIC-009874

Literature Search: The official records and maps for archaeological sites and surveys in Tehama County were reviewed. Also reviewed: **National Register of Historic Places - Listed properties and Determined Eligible Properties** (2012); **California Inventory of Historic Resources** (1976); **Gold Districts of California – Bulletin 193** (2012); **Built Environment Resource Directory** (2019); and **Handbook of North American Indians, Vol. 8, California** (1978).

RECOMMENDATIONS:

We recommend that you contact the appropriate local Native American representatives for information regarding traditional cultural properties that may be located within project boundaries for which we have no records.

The fee for this records search is \$225.00 (1 hour of Priority Information Center time @ \$225.00 per hour). An invoice will follow from Chico State Enterprises for billing purposes. Thank you for your concern in preserving California's cultural heritage. Please feel free to contact us if you have any questions or need any further information.

Sincerely,



Ryan Bradshaw
NEIC Coordinator

Report Detail: NEIC-003613

D20-235 (0.5mi)

Identifiers

Report No.: NEIC-003613

Other IDs:

Cross-refs:

Citation information

Author(s): Deitz, Frank

Year: 1999 (May)

Title: Cultural Resources Assessment on Deer Creek, Tehama County, California

Affiliation: US Army Corps of Engineers

No. pages: 10

No. maps:

Attributes: Archaeological, Field study

Inventory size: ~ 5 acres

Disclosure: Unrestricted

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Tehama

USGS quad(s): VINA

Address:

PLSS: T24N R1W Sec. 6 MDBM

Database record metadata

	<i>Date</i>	<i>User</i>	
<i>Entered:</i>	12/5/2006	lucia	
<i>Last modified:</i>	12/19/2016	kmpiercy	
<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	12/19/2016	kmpiercy	Tehama Co QC
<i>Record status:</i>	Verified		

Report Detail: NEIC-009874

D20-235 (0.5mi)

Identifiers

Report No.: NEIC-009874

Other IDs:

Cross-refs:

Citation information

Author(s): Martinez, Amanda L. and Nancy E. Sikes

Year: 2008 (Sep)

Title: Cultural Resources Survey for the Levee Repair Project at 20 Locations in Colusa, Sacramento, Sutter, Tehama, and Yolo Counties, California

Affiliation: SWCA

No. pages: 166

No. maps:

Attributes: Archaeological, Field study

Inventory size: 35.2 acres

Disclosure: Not for publication

Collections: No

General notes

no sites in our area, however, there are sites outside the area

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): Other, Sutter, Tehama

USGS quad(s): GRIMES, KNIGHTS LANDING, NICOLAUS, SUTTER BUTTES, VERONA, VINA

Address:

PLSS: T11N R3E Sec. 19, 3 MDBM Knights Landing

T12N R3E Sec. 23,27,34 MDBM

T15N R1E Sec. 14,30 MDBM

T24N R1W Sec. 6 MDBM

Database record metadata

	Date	User	
Entered:	11/19/2008	joann	
Last modified:	2/1/2017	kdeutsch	
IC actions:	Date	User	Action taken
	9/17/2015	smikulovsky	Location QC
	11/6/2015	kmpiercy	Sutter Co QC
	12/6/2016	kmpiercy	Tehama Co QC
Record status:	Verified		

Appendix C. Air Quality/GHG Data

**Appendix C
Air Quality/GHG Data Calculations**

Construction equipment emissions

Equipment	quantity	number of days	hours per day	total operating hours	fuel use (Gal/hr)*	total consumption	MT Co2e/gal diesel	total CO2e (metric tons)
water truck	1	20	11	220	6	1320	0.01016	13.4112
excavator	1	20	11	220	5.12	1126.4	0.01016	11.4
loader	1	20	11	220	2.7	594	0.01016	6.0
grader	1	20	11	220	5.66	1245.2	0.01016	12.7
pick up	4	20	11	880	4	3520	0.01016	35.7632
								79

* CARB Off-road 2007 Emissions Inventory Fuel Consumption Factors

^ https://www.eia.gov/environment/emissions/co2_vol_mass.php

Emissions from construction workforce

avg workers/day	workdays	RT distance	total miles	average efficiency (miles/gal)	total fuel use (gal)	co2e per gallon of gasoline	total co2e (MT)
10	20	50	10000	22.3	448.4304933	0.00889	4.0

note: average fuel efficiency of light duty vehicles in 2017 per U.S. Bureau of Transportation Statistics

<https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles>

Emissions from Transportation of Materials

Trip Type	Total Trips	RT Distance	Total Miles	Semi truck efficiency (miles/gal)	total fuel use (gal)	MT Co2e/gal diesel^	total co2e (MT)
Delivery	60	60	3600	6	600	0.01016	6.096
Spoils	10	60	600	6	100	0.01016	1.016
							7.1

MT co2e/gal diesel 0.01016

MW co2e/gal gasoline 0.00889