Initial Study/Proposed Mitigated Negative Declaration

Feather River Erosion Site 2 Repair Project
Date: February 6, 2009

To: Interested Parties

From: Paul Brunner, P.E., Executive Director, Three Rivers Levee Improvement Authority

Subject: Notice of Intent to Consider Adoption of a Proposed Mitigated Negative Declaration for the Feather River Erosion Site 2 Repair Project

Enclosed for your review is an Initial Study/Mitigated Negative Declaration (IS/MND) evaluating the potential environmental effects of the proposed Feather River Erosion Site 2 Repair Project, which is located near the confluence of the Feather and Yuba Rivers along the water side of the east Feather River levee in Yuba County. The Three Rivers Levee Improvement Authority (TRLIA) has prepared this IS/MND in accordance with the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The proposed project involves the repair of an overflow channel known as the “State Cut” and a nearby portion of the waterside levee surface to reduce the potential for future erosion and scour at the site during high water events in the Feather River floodway. Project activities would include constructing a rock slope protection layer in the State Cut, revegetating the adjacent levee slope, and regrading and resurfacing an existing maintenance road along the levee toe.

The IS/MND identifies potentially significant impacts related to: air quality, biological resources, cultural resources, soil erosion, water quality, and noise. All impacts are reduced to less-than-significant levels with implementation of recommended mitigation measures.

The IS/MND is being circulated for public review and comment for a 30-day period beginning on February 6 and ending on March 9, 2009. The IS/MND may also be reviewed at TRLIA’s Web site, http://www.trlia.org/, at the Yuba County Library, 303 Second Street, Marysville; and at the Sutter County Library, 750 Forbes Ave, Yuba City. For questions regarding the IS/MND and documents referenced in the IS/MND, contact Sean Bechta, (916) 414-5800, sean.bechta@edaw.com.

Please send written comments on the IS/MND to Paul Brunner, P.E., Executive Director, Three Rivers Levee Improvement Authority, 1114 Yuba Street, Suite 218, Marysville, CA 95901, fax (530) 749-6990. Comments may also be sent via e-mail to pbrunner@co.yuba.ca.us. For e-mailed comments, please include the project title in the subject line, attach comments in MS Word format, and include the commenter’s U.S. Postal Service mailing address.

TRLIA intends to consider adoption of the Mitigated Negative Declaration at its regularly scheduled board meeting on March 17, 2009, at 2:00 p.m. at the Yuba County Government Center Board Chambers at 915 Eighth Street, Marysville. This meeting is open to the public.
Date: February 12, 2009

To: Interested Parties

From: Paul Brunner, P.E., Executive Director, Three Rivers Levee Improvement Authority

Subject: Revised Public Review Period for the Proposed Mitigated Negative Declaration for the Feather River Erosion Site 2 Repair Project

You recently received a print copy or compact disc of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Feather River Erosion Site 2 Repair Project. The Notice of Intent accompanying that document indicated that the public review and comment period would begin on Friday, February 6, 2009, and continue through Monday, March 9, 2009.

The State of California’s state employee furlough program resulted in Friday, February 6, 2009 being identified as a furlough day. Because of the furlough day, the California Office of Planning and Research (OPR) altered the public review period for the IS/MND to begin on Monday, February 9, 2009 and end on Tuesday, March 10, 2009. Consistent with the OPR designated public review period, comments on the IS/MND will now be accepted through Tuesday, March 10, 2009.

Please send written comments on the IS/MND to Paul Brunner, P.E., Executive Director, Three Rivers Levee Improvement Authority, 1114 Yuba Street, Suite 218, Marysville, CA 95901, fax (530) 749-6990. Comments may also be sent via e-mail to pbrunner@co.yuba.ca.us. For e-mailed comments, please include the project title in the subject line, attach comments in MS Word format, and include the commenter’s U.S. Postal Service mailing address.

TRLIA intends to consider adoption of the Mitigated Negative Declaration at its regularly scheduled board meeting on March 17, 2009, at 2:00 p.m. at the Yuba County Government Center Board Chambers at 915 Eighth Street, Marysville. This meeting is open to the public.
Initial Study/Proposed Mitigated Negative Declaration
Feather River Erosion Site 2 Repair Project

Prepared for:
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Project Director
(916) 414-5800

February 2009
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## ABBREVIATIONS AND ACRONYMS

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<td>average daily traffic</td>
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<td>Exclusive Agricultural</td>
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<td>California Air Resources Board</td>
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<td>California Natural Diversity Database</td>
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<td>CNEL</td>
<td>community noise equivalent level</td>
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<td>California Native Plant Society</td>
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<td>Fps</td>
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<td>Feather River Levee Repair Project</td>
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<td>FTA</td>
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<td>Initial Study/Proposed Mitigated Negative Declaration</td>
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<tr>
<td>lb/day</td>
<td>pounds per day</td>
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<tr>
<td>Lₜ</td>
<td>velocity level</td>
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<td>MLD</td>
<td>Most Likely Descendant</td>
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<td>mph</td>
<td>miles per hour</td>
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<td>MRZs</td>
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<td>Native American Heritage Commission</td>
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<td>nitrogen dioxide</td>
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<tr>
<td>NOₓ</td>
<td>oxides of nitrogen</td>
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<td>NRHP</td>
<td>National Register of Historic Places</td>
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<td>NSVPA</td>
<td>Northern Sacramento Valley Planning Area</td>
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<td>OHWM</td>
<td>ordinary high-water mark</td>
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<td>PM₁₀</td>
<td>respirable particulate matter with an aerodynamic diameter of 10 micrometers or less</td>
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<tr>
<td>PM₂·₅</td>
<td>respirable particulate matter with an aerodynamic diameter of 2.5</td>
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<td>Abbreviation</td>
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<tr>
<td>ppm</td>
<td>parts per million</td>
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<td>PPV</td>
<td>peak particle velocity</td>
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<td>proposed project</td>
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<td>RD</td>
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<td>ROG</td>
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<td>SB</td>
<td>Senate Bill</td>
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<td>sulfur dioxide</td>
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<td>SO$_x$</td>
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<td>SR</td>
<td>State Route</td>
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<td>SWPPP</td>
<td>storm water pollution prevention plan</td>
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<td>TAC</td>
<td>toxic air contaminant</td>
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<tr>
<td>TMDL</td>
<td>total maximum daily load</td>
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<td>TRLIA</td>
<td>The Three Rivers Levee Improvement Authority</td>
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<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
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<td>USGS</td>
<td>U.S. Geological Survey</td>
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<tr>
<td>$\mu$g/m$^3$</td>
<td>micrograms per cubic meter</td>
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1 INTRODUCTION

The Three Rivers Levee Improvement Authority (TRLIA) has prepared this initial study/proposed mitigated negative declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to address the environmental consequences of the proposed Feather River Erosion Site 2 Repair Project (proposed project) in Yuba County, California. TRLIA is the lead agency under CEQA. The levee is maintained by Reclamation District (RD) 784.

The Feather River Erosion Site 2 Repair Project is located near the confluence of the Feather and Yuba Rivers, along the water side of the east Feather River levee in Yuba County, California. The proposed repair activities would occur in a portion of an overflow channel at the river confluence known as the “State Cut.”

The State Cut was constructed in the 1930s to improve hydraulic efficiency during high-water events at the confluence of the Feather and Yuba Rivers. Erosion Site 2 reportedly had erosion problems on the levee slope prior to 1997; however, bank protection was placed in this area, and no problems were reported as a result of the extreme high water conditions experienced during the January 1997 flood. Nonetheless, the U.S. Army Corps of Engineers (USACE) has expressed concern about the potential for future erosion and scour at Erosion Site 2. USACE also noted that the Feather River’s waterside levee slope at this location lacks vegetation, and that the fine sandy soil in the levee foundation has the potential to erode during a 100-year or greater flood event. Furthermore, USACE is concerned that the bed of the State Cut has the potential to scour and move laterally, compromising the foundation of the levee.

A hydrologic analysis, conducted in April 2007 by MBK Engineers (2007), determined that additional scour protection would be required at the project site to reduce the potential for future scour under the 100-year flood event. Review of historic topographic data along the bed of the State Cut suggests that the rate of scour may be as high as 0.1 to 0.2 foot per year. The scour within the State Cut is episodic and substantial scour is possible in a single extreme event.

The proposed project involves the repair and maintenance of a segment of the State Cut and a nearby portion of the waterside levee surface. This area is the Erosion Site 2 project site. The proposed activities include the construction of a rock slope protection layer and toe trench in the State Cut, revegetation of the levee slope, and regrading and resurfacing of an existing maintenance road along the levee toe.

This document includes:

- an IS to satisfy CEQA requirements,
- an MND to satisfy CEQA requirements, and
- a notice of availability and intent to adopt an IS/MND for the proposed project.

After completion of the required public review of this document, TRLIA intends to adopt the MND and the mitigation monitoring and reporting program, and to approve the proposed project.

1.1 PURPOSE OF THE INITIAL STUDY

This document is an IS/MND prepared in accordance with CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). The purpose of this IS/MND is to (1) determine whether project implementation would result in potentially significant or significant effects on the environment, and (2) incorporate mitigation measures into the project design, as necessary, to eliminate the project’s potentially significant or significant project effects or reduce them to a less-than-significant level. An IS/MND presents the environmental analysis and substantial evidence supporting 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/MND is neither intended nor required to include the level of detail used in an EIR.

CEQA requires that all state and local government agencies consider the environmental consequences of projects they propose to carry out, or over which they have discretionary authority, before implementing or approving those projects. As specified in Section 15367 of the State CEQA Guidelines, the public agency that has the principal responsibility for carrying out or approving a project is the lead agency for CEQA compliance. TRLIA has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this IS/MND.

As specified in Section 15064(a) of the State CEQA Guidelines, if there is substantial evidence (such as the results of an IS) that a project, either individually or cumulatively, may have a significant effect on the environment, the lead agency must prepare an EIR. The lead agency may instead prepare an IS if it determines there is no substantial evidence that the project may cause a significant impact on the environment. The lead agency may prepare an MND if, in the course of the IS analysis, it is recognized that the project may have a significant impact on the environment but that implementing specific mitigation measures would reduce any such impacts to a less-than-significant level (State CEQA Guidelines, Section 15064[f]).

TRLIA has prepared this IS to evaluate the potential environmental effects 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 have no impact related to the following issue areas:

► land use and planning,
► population and housing,
► public services,
► recreation, and
► utilities and service systems.

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

► aesthetics,
► agricultural resources,
► mineral resources, and
► traffic and transportation.

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

► air quality,
► biological resources,
► cultural resources,
► geology and soils,
► hazards and hazardous materials,
► hydrology and water quality, and
► noise.
1.3 DOCUMENT ORGANIZATION

This document is divided into the following sections:

Notice of Availability and Intent to Adopt an IS/MND. The notice of availability and intent to adopt an IS/MND provides notice to responsible and trustee agencies, interested parties, and organizations of the availability of this IS, as well as TRLIA’s intent to adopt an IS/MND for the proposed project.

MND. The MND, which precedes the IS analysis, summarizes the environmental conclusions and identifies mitigation measures that would be implemented in conjunction with the proposed project. The MND would be signed by a representative of TRLIA.

Chapter 1, “Introduction.” This chapter provides a brief summary of the proposed project and describes the purpose of the IS/MND, provides a summary of findings, and describes the organization of this IS/MND.

Chapter 2, “Project Description.” This chapter describes the purpose of and need for the proposed project, general background, and project elements.

Chapter 3, “Environmental Setting, Impacts, and Mitigation Measures.” This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist, and determines whether project implementation would result in no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact on the environment in each of the issue areas. If any impacts were determined to be potentially significant, an EIR would be required. For this project, however, mitigation measures have been incorporated where needed, to reduce all potentially significant impacts to a less-than-significant level.

Chapter 4, “References.” This chapter lists the references used in preparation of this IS/MND.

Chapter 5, “List of Preparers.” This chapter identifies report preparers.
2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The Feather River Erosion Site 2 Repair Project (proposed project) is located near the confluence of the Feather and Yuba Rivers, along the water side of the east Feather River levee and south Yuba River levee in Yuba County, California (Exhibit 2-1). The proposed repair activities would occur in a portion of an overflow channel at the river confluence known as the “State Cut.” The headwaters of the State Cut are located north of State Route (SR) 70 and the cut extends south to Shanghai Bend. The State Cut is located between the Feather River’s main channel and its east levee. The project site is located approximately 1.5 miles west of the community of Linda, 0.5 mile east of the Feather River, and 0.5 mile directly south of SR 70 (Exhibit 2-2).

2.2 PURPOSE

The State Cut was constructed in the 1930s to improve hydraulic efficiency during high-water events at the confluence of the Feather and Yuba Rivers. Reportedly Site 2 had erosion problems on the levee slope prior to 1997; however, bank protection was placed in this area, and no problems were reported as a result of the extreme high water conditions experienced during the January 1997 flood. Nonetheless, the U.S. Army Corps of Engineers (USACE) has expressed concern about the potential for future erosion and scour at Erosion Site 2. USACE also noted that the Feather River’s waterside levee slope in this area lacks vegetation, and that the fine sandy soil in the levee foundation has the potential to erode during a 100-year or greater flood event. Furthermore, USACE is concerned that the bed of the State Cut has the potential to scour and move laterally, potentially compromising the foundation of the levee.

A hydrologic analysis, conducted in April 2007 by MBK Engineers (2007), determined that additional scour protection would be required at the project site to reduce the potential for future scour under the 100-year flood event. Review of historic topographic data along the bed of the State Cut suggests that the rate of scour may be as high as 0.1 to 0.2 foot per year. The scour within the State Cut is episodic and substantial scour is possible in a single extreme event.

The purpose of the proposed project is to reinforce the portion of the State Cut in the project area to withstand erosive forces during high-water events and to revegetate the waterside levee surface in this area to increase its resistance to erosion.

2.3 PROJECT DESCRIPTION

The proposed project involves the repair and maintenance of the portion of the State Cut in the project area and revegetation of the waterside levee surface at this location. This area is the Erosion Site 2 project site. The proposed activities include the construction of a rock slope protection layer and toe trench in the State Cut, revegetation of the levee slope, and regrading and resurfacing of an existing maintenance road along the levee toe. Construction equipment would access the project site via SR 70, to Feather River Boulevard, and then local roads (e.g., Riverside Drive). An existing ramp over the levee adjacent to the project site would be used to access the Feather River floodway and the State Cut. Construction activities are anticipated to begin after April 15, 2009, and be completed by the end of summer. The construction cost for the Erosion Site 2 project has been estimated at $500,000.

2.3.1 ROCK SLOPE PROTECTION LAYER AND TOE TRENCH

To resist erosive forces, the eastern slope of the State Cut channel below the waterside levee toe would be regraded and armored with rock between Station 705+00 and Station 713+00, as illustrated on the GEI Consultants Conceptual Site 2 Erosion Repairs Plan (Exhibit 2-3).
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
EROSION SITE 2 REPAIR PROJECT
Regional Setting

Exhibit 2-1
Study Area Location

THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
EROSION SITE 2 REPAIR PROJECT

Exhibit 2-2

Source: Prepared by EDAW 2008
Modeling results at the Erosion Site 2 project site indicate that the highest flow velocities in this reach range from 5 to 8 feet per second (fps), under simulated 100-year flood events. The applied shear stress (ability of a river to mobilize soil material) ranges from 0.3 to 0.6 pound per square foot (Exhibit 2-4). The critical shear stress for narrowly graded sand is estimated to be between 0.03 and 0.06 pound per square foot (Chang 1988). Under existing conditions, the calculated shear stress at the Erosion Site 2 project site substantially exceeds critical conditions for potential scour during a simulated 100-year flood event.

The design of the rock slope protection layer is based on the procedures outlined by USACE Manual EM 1110-2-1601, *Hydraulic Design of Flood Control Channels* (USACE 1994). The bank slope would be constructed at 2.5 horizontal to 1 vertical, as shown in the GEI Consultants Conceptual Site 2 Erosion Repairs Sections (Exhibit 2-5). Existing concrete rubble and native materials at Erosion Site 2 would be stockpiled within a 50-foot temporary construction easement adjacent to the construction site. A minimum layer thickness of 2 feet of rock slope would be constructed along the bank from the bottom of the toe trench (described below) to the top of the State Cut bank. Commercially supplied riprap that meets the California Department of Transportation’s (Caltrans’s) specifications for “facing riprap” and Method B placement (Caltrans Standard Specifications, Section 72-2, Rock Slope Protection) would be used (Caltrans 2002a). Filter fabric would be placed under the rock layer. The protection fabric would be a nonwoven geotextile (Caltrans Standard Specifications, Section 88-1.04, Rock Slope Protection Fabric).

The toe trench would be constructed by extending the revetment to a depth of 5 feet below the existing ground and placing a 10-foot-wide horizontal layer of rock within the toe trench, as illustrated in Exhibit 2-5. Excavated trench and bank materials would also be stored within the 50-foot temporary construction easement adjacent to the excavation site. Salvaged concrete rubble and native material from on-site trench excavation would be used to fill the toe trench. The concrete rubble would serve to further reduce the scour potential when flows are active in the State Cut.

**LEVEE SLOPE REVEGETATION**

A portion of the waterside slope of the Feather River levee in the project area is considered susceptible to erosion during high-water events because it lacks vegetation and contains loose sandy soils. To correct this condition, revegetation of the levee slope would occur from approximately Station 705+00 to Station 712+00 (Exhibit 2-3). The levee waterside slope would be scarified to a depth of 4 inches and covered with a 6-inch layer of locally imported soil. The slope surface would be seeded, then fertilized in compliance with approved specifications (16% nitrogen, 20% phosphorus, and 0% potash at 500 pounds per acre), and a mulch surface would be applied with TRLIA’s standard levee seed mix. Seeding would likely occur between October 1 and October 31 just before the fall rains begin. The seeded slope would be protected by a biodegradable erosion control blanket, such as those constructed of coconut fiber and jute thread. A contractor would irrigate and maintain the slope as needed to establish the specified vegetation cover.

### 2.3.2 REESTABLISHMENT OF MAINTENANCE ROAD

The maintenance road along the waterside toe of the levee, between Station 707+00 and Station 710+00 (Exhibit 2-3), would be regraded and surfaced with road base to improve its drivability for maintenance vehicles. The new road surface would consist of 4 inches of imported aggregate base obtained from a local quarry (Caltrans Standard Specifications, Section 26-1.02A, Class 2 Aggregate Base).
Erosion Repair Cross Sections

NOTES:
1. PRIOR TO PLACING THE RIPRAPH, TRIM THE SLOPE TO A UNIFORM GRADE. EXISTING CONCRETE AND ROCK DEBRIS EXCAVATED DURING SLOPE PREPARATION MAY BE MIXED WITH NATIVE SOIL FROM TOE TRENCH EXCAVATION AND MAY BE USED AS RANDOM FILL TO BACKFILL THE TOE TRENCH.
2. PLACE THE RIPRAPH STARTING FROM THE BOTTOM OF THE SLOPE AND PROGRESSING TO THE TOP.
3. RIPRAPH SHALL MEET CALTRANS STANDARD SPECIFICATION SECTION 72-2 REQUIREMENTS FOR PLACING RIPRAPH WITH METHOD B PLACEMENT.
4. NONWOVEN GEOTEXTILE SHALL MEET CALTRANS STANDARD SPECIFICATION SECTION B8.1.04 FOR TYPE B ROCK SLOPE PROTECTION FABRIC. IN ADDITION, GEOTEXTILE SHALL HAVE A DEMONSTRATED INTERFACE FRICTION ANGLE WITH THE LEVEE BAND OF 30 DEGREES OR GREATER.
ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title: Feather River Erosion Site2 Repair Project
2. Lead Agency Name and Address: Three Rivers Levee Improvement Authority, 1114 Yuba Street, Suite 218, Marysville, CA 95901
3. Contact Person and Phone Number: Paul Brunner, Executive Director, (530) 749-7841
4. Project Location: Near the confluence of the Feather and Yuba Rivers, along the water side of the east Feather River levee and south Yuba River levee in Yuba County, California
5. Project Sponsor’s Name and Address: Three Rivers Levee Improvement Authority, 1114 Yuba Street, Suite 218, Marysville, CA 95901
6. General Plan Designation: Valley Agriculture
7. Zoning: Exclusive Agricultural
8. Description of Project: The proposed project involves the repair and maintenance of the portion of the State Cut in the project area and revegetation of the waterside levee surface at this location. This area is the Erosion Site 2 project site. The proposed activities include the construction of a rock slope protection layer and toe trench in the State Cut, revegetation of the levee slope, and regrading and resurfacing of an existing maintenance road along the levee toe. Construction equipment would access the project site via SR 70, to Feather River Boulevard, and then local roads (e.g., Riverside Drive). An existing ramp over the levee adjacent to the project site would be used to access the Feather River floodway and the State Cut.
10. Other public agencies whose approval is required: NMFS, CDFG, USACE, RWQCB, USFWS, ARB, CVFPB

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

- [ ] Aesthetics
- [x] Biological Resources
- [x] Hazards & Hazardous Materials
- [ ] Mineral Resources
- [ ] Public Services
- [ ] Utilities / Service Systems
- [ ] Agriculture Resources
- [x] Cultural Resources
- [x] Hydrology / Water Quality
- [ ] Noise
- [ ] Recreation
- [ ] Mandatory Findings of Significance
- [ ] Air Quality
- [x] Geology / Soils
- [ ] Land Use / Planning
- [ ] Population / Housing
- [ ] Transportation / Traffic
- [ ] None With Mitigation
<table>
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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 although 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**

---

**Printed Name**  **Title**

---

**Agency**
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.

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

4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “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 “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be 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:
   the significance criteria or threshold, if any, used to evaluate each question; and
   the mitigation measure identified, if any, to reduce the impact to less than significance.
3.1 AESTHETICS

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<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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<tr>
<td>I. Aesthetics. Would the project:</td>
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<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
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<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock</td>
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<td>outcroppings, and historic buildings within a state scenic highway?</td>
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<td>c) Substantially degrade the existing visual character or quality of the site and its</td>
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<td>surroundings?</td>
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<td>d) Create a new source of substantial light or glare which would adversely affect day</td>
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<td>or nighttime views in the area?</td>
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This section describes the visual character of existing views in the project vicinity and evaluates potential effects of the proposed project on those views.

ENVIRONMENTAL SETTING

The project site covers approximately 5.4 acres along the Feather River east levee and Yuba River south levee near the confluence of the Yuba and Feather Rivers. The proposed repair activities would occur in a portion of an overflow channel at the river confluence known as the State Cut. The State Cut headwaters are located north of State Route (SR) 70 and the cut extends south to Shanghai Bend. The State Cut is located between the Feather River’s main channel and east levee. An area of riparian forest scrub is visible near the west side of the project site; however, no riparian vegetation occurs on the project site (Exhibit 3.1-1). Some parts of the waterside levee slope are sparsely vegetated with grasses and weeds. Weed patches are visible within the State Cut channel, which appears as a wide sandy area along the waterside levee toe. An unpaved maintenance road is visible along the waterside toe of the levee (Exhibit 3.1-2). Gravels and cobbles are embedded in the sandy soils that form the levee. Riprap and broken concrete blocks line some portions of the eastern bank of the State Cut channel (Exhibit 3.1-3). Other visual features in the project vicinity include the Union Pacific Railroad and SR 70 bridges north of the project site (Exhibit 3.1-4).

Although the project site and the areas north and south are informally used by people in vehicles and on foot, the site and adjacent areas are not open to the public. Exhibits 3.1-2 and 3.1-4 show evidence of use of the area, including tire tracks, footprints, and scattered trash in the State Cut channel. Extensive areas to the west are planted in orchards. The main channels of the Yuba and Feather Rivers are beyond the agricultural areas to the west and northwest. Approximately 15–20 residences are located on the east side of the levee (i.e., on the opposite side of the levee from the project site). The project site is not directly visible from these residences because views are blocked by the existing levee.
DISCUSSION

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

No Impact. A scenic vista is generally considered a view of an area that has remarkable scenery or a natural or cultural resource that is indigenous to the area. Views in the area do not include remarkable landscape elements that create scenic vistas. Because no scenic vistas are present, the proposed project would have no effect on a scenic vista. Therefore, no impact would occur.

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

No Impact. No designated or eligible state scenic highways are located in the project vicinity (Caltrans 2007). Therefore, no impact would occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less-than-Significant Impact. The work to repair the erosion site would include regrading the eastern slope of the existing State Cut channel below the waterside toe of the levee. Work associated with the erosion site repairs would involve constructing a rock slope protection layer in the existing State Cut channel below the waterside slope of the existing levee. The waterside levee slope at the project site would be revegetated to improve its resistance to erosion. To revegetate the slope, a soil layer and erosion protection mat would be placed over the existing cobble surface. The maintenance road along the waterside toe of the levee would be regraded and surfaced with road base to improve its drivability. These improvements would not substantially alter the existing visual character of the project site, and the proposed project would not introduce new visual elements into the landscape. Revegetation of the Feather River levee waterside slope could be considered an improvement to the visual character of the area. However, a conservative approach is taken for this analysis, and this impact is considered less than significant.

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

Less-than-Significant Impact. Work associated with the erosion site repairs is described above under item c). Before the beginning of repair work, staging areas would be established in the area surrounding the project site and along the top of the levee between the project site and the Union Pacific Railroad crossing near SR 70 north of the project site. The area along the levee crest is visible from the residential area on the east side of the levee where approximately 15–20 single-family residences are within a few hundred feet of the levee. However, the project work would be completed within a few months, with construction beginning after April 15, 2009, and ending by the end of summer 2009. To the extent practicable, the work would be completed in 10- to 12-hour shifts during daylight hours. Nighttime construction would not occur unless it was determined to be necessary to complete construction before the beginning of the flood season on November 1. In the unlikely event of nighttime construction, the project site would be lit. Although local residents are considered a sensitive viewer group, changes in views from nearby residences (e.g., views of construction vehicles and materials along the levee crest) would be temporary, and the introduction of any new sources of light and glare would be short term and would end at project completion. No substantial long-term sources of light or glare would be associated with the work to repair the levee erosion site. Therefore, this impact would be less than significant.
View West from the Waterside Levee Toe

Source: Photograph provided by EDAW in 2008

View East across the State Cut to the Maintenance Road and the Levee Slope

Source: Photograph provided by EDAW in 2008
Riprap along a Portion of the East Side Bank of the State Cut  Exhibit 3.1-3

View Northeast across the State Cut to the Levee Toe and State Route 70  Exhibit 3.1-4
3.2 AGRICULTURAL RESOURCES

<table>
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<th>Less Than Significant with Mitigation Incorporated</th>
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<tr>
<td>II. Agricultural Resources.</td>
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<tr>
<td>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.</td>
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<td>Would the project:</td>
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<tr>
<td>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?</td>
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<tr>
<td>b) Conflict with existing zoning for agricultural use or a Williamson Act contract?</td>
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<tr>
<td>c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?</td>
<td>☐</td>
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This section describes existing agricultural uses in the project vicinity and evaluates potential effects of the proposed project on agricultural land and on lands mapped as part of the Farmland Mapping and Monitoring Program (FMMP) by the California Department of Conservation (DOC), Division of Land Resource Protection.

ENVIRONMENTAL SETTING

AGRICULTURAL LAND USES IN THE PROJECT VICINITY

The project site is located along the waterside slope of the Feather River east levee and the adjacent State Cut, near the confluence of the Yuba and Feather Rivers. The project site, including the State Cut channel, is bordered on the west by a swath of riparian forest scrub. The main channels of the Feather and Yuba Rivers are approximately one-half mile west and northwest of the project site, respectively. Portions of the lands between the river channels and the east levee extending north to the SR 70 overpass and south to Shanghai Bend are actively maintained orchards. A portion of an orchard between the levee and the State Cut channel borders the south end of the project site. No other agricultural areas are adjacent to the project site.

FARMLAND MAPPING AND MONITORING PROGRAM

DOC’s Division of Land Resource Protection works with landowners, local governments, and researchers to conserve the state’s farmland and open space, and it maintains a statewide inventory of farmlands. These lands are mapped as part of the FMMP based on a classification system that combines technical soil ratings and current land use. Lands are divided and mapped into the following farmland categories (often referred to as Important Farmland categories) and other categories based on their suitability for agricultural use:
- **Prime Farmland**—Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.

- **Farmland of Statewide Importance**—Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.

- **Unique Farmland**—Farmland of lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years before the mapping date.

- **Farmland of Local Importance**—Land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.

- **Grazing Land**—Land on which the existing vegetation is suited to the grazing of livestock.

- **Urban and Built-up Land**—Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel.

- **Other Land**—Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

- **Water**—Perennial water bodies with an extent of at least 40 acres.

According to the latest FMMP data, most of the land at the project site is classified as Other Land (FMMP 2006). A small area along the southeast edge of the project site on the waterside levee slope is classified as Urban and Built-up Land. A small area covering one-tenth of an acre at the south end of the site near the orchard is classified as Prime Farmland (Exhibit 3.2-1).

**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?**

**Less-than-Significant Impact.** The work to repair Erosion Site 2 would involve regrading the eastern slope of the existing State Cut channel below the waterside toe of the levee. Erosion site repairs would include constructing a rock slope protection layer in the existing State Cut channel below the waterside slope of the existing levee. The levee slope at the project site would be revegetated to improve its resistance to erosion. An existing maintenance road along the waterside toe of the levee would be regraded and surfaced with road base to improve its drivability. These improvements would be consistent with existing uses at the project site.

As described previously, an area covering one-tenth of an acre within the south edge of the project site is classified as Prime Farmland. This area is partially within the proposed limit of levee slope revegetation, indicating a small error in mapping the Prime Farmland boundary as an existing levee should not be designated as Prime Farmland or another important farmland category. The remainder of the small area that is classified as Prime Farmland is within the temporary construction easement (i.e., project staging area) that would be
established during project construction. All areas used for construction staging would be returned to their original condition at project completion. The proposed project would not convert Important Farmland, and no uses are proposed that are different from existing uses at the project site. Therefore, this impact would be less than significant.

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

No Impact. Yuba County does not participate in the Williamson Act; therefore, no lands in the project vicinity are under Williamson Act contract.

Construction of the proposed project would occur in unincorporated Yuba County. The project site is within an area on the valley floor outside of community boundaries that is designated Valley Agriculture on the Yuba County General Plan (County General Plan) land use map (Yuba County 2004). The project site is within an extensive area that is zoned Exclusive Agricultural (AE-40) (Yuba County 2005). The purpose of the Exclusive Agricultural zone is to eliminate the encroachment of land uses that are incompatible with the agricultural uses of the land and to prevent the unnecessary conversion of agricultural land to urban uses. The project site is within an area that is part of the regional flood control system. It includes the State Cut channel, the existing maintenance road, and the levee. Improvements that would be implemented at the project site are consistent with existing flood control functions and uses in the area. No new uses are proposed that would conflict with Yuba County’s (County’s) land use designations or zoning at the project site. Therefore, no impact would occur.

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

Less-than-Significant Impact. See responses to items a) and b) above.
Important Farmland Map

Exhibit 3.2-1
3.3 AIR QUALITY

ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

III. Air Quality.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.

Would the project:

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

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

This section describes ambient air quality conditions, summarizes applicable regulations, and analyzes potential short-term construction and long-term operational impacts of the proposed project on air quality. Mitigation measures are recommended as necessary to reduce any potentially significant air quality impacts to a less-than-significant level.

ENVIRONMENTAL SETTING

The project site is located in Yuba County, south of the city of Marysville, which is under the jurisdiction of the Feather River Air Quality Management District (FRAQMD). With respect to ozone, Yuba County is currently designated as a moderate nonattainment area for the state 1-hour and 8-hour ambient air quality standards; and attainment/unclassified for the federal 8-hour standard (ARB 2008a). Yuba County is also designated as a nonattainment area with respect to the state standard for respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM10).

Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), respirable and fine particulate matter (PM10 and PM2.5), and lead are used as indicators of ambient air quality conditions. Because these are the most prevalent air pollutants known to be deleterious to human health, and because extensive documentation is available on health-effects criteria for these pollutants, they are commonly referred to as “criteria air pollutants.” Standards called the California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS) have been set for criteria air pollutants by the California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA), respectively. Concentrations of criteria air...
pollutants are measured at several monitoring stations in the North Sacramento Valley Air Basin. The Yuba City–Almond Street station is the closest station to the project site with recent data for ozone, PM\textsubscript{10}, and PM\textsubscript{2.5}. In general, the ambient air quality measurements from these stations are representative of the air quality in the project vicinity. Table 3.3-1 summarizes air quality data for the most recent 3 years of available data.

<table>
<thead>
<tr>
<th>Table 3.3-1</th>
<th>Summary of Annual Data on Ambient Air Quality (2005–2007)\textsuperscript{a}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
</tr>
<tr>
<td><strong>OZONE</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum concentration (1-hour/8-hour average, ppm)</td>
<td>0.092/0.074</td>
</tr>
<tr>
<td>Number of days state standard exceeded (1-hour/8-hour)</td>
<td>0/7</td>
</tr>
<tr>
<td>Number of days federal standard exceeded (8-hour)</td>
<td>0</td>
</tr>
<tr>
<td><strong>FINE PARTICULATE MATTER (PM\textsubscript{2.5})</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum concentration ((\mu g/m^3))</td>
<td>47.2</td>
</tr>
<tr>
<td>Number of days federal standard exceeded (measured\textsuperscript{b})</td>
<td>2</td>
</tr>
<tr>
<td><strong>RESPIRABLE PARTICULATE MATTER (PM\textsubscript{10})</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum concentration ((\mu g/m^3))</td>
<td>60.0</td>
</tr>
<tr>
<td>Number of days state standard exceeded (measured/calculated\textsuperscript{b})</td>
<td>5/31</td>
</tr>
<tr>
<td>Number of days federal standard exceeded (measured/calculated\textsuperscript{b})</td>
<td>0/0</td>
</tr>
</tbody>
</table>

Notes: \(\mu g/m^3\) = micrograms per cubic meter; ppm = parts per million; – = insufficient data to determine the value
\textsuperscript{a} Measurements from the Yuba City–Almond Street station.
\textsuperscript{b} Measured days are those days that an actual measurement was greater than the level of the state standard or the federal standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Source: ARB 2008b

Both ARB and EPA use the monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations, identified above, is to identify those areas with air quality problems and thereby initiate planning efforts for improvement.

The air pollution control districts and air quality management districts for Shasta, Tehama, Glenn, Butte, Colusa, Sutter, and Yuba Counties, located in the northern portion of the Sacramento Valley, together compose the Northern Sacramento Valley Planning Area (NSVPA). The NSVPA districts have committed to jointly prepare and adopt a uniform air quality attainment plan for the purpose of achieving and maintaining healthful air quality throughout the air basin. This triennial update of the NSVPA Air Quality Attainment Plan addresses the progress made in implementing the 2003 plan and proposes modifications to the strategies necessary to attain the CAAQS for the 1-hour ozone standard at the earliest practicable date. The 2006 plan identifies those portions of the NSVPA designated as “nonattainment” for the state ambient air quality standards and discusses the health effects related to the various air pollutants. The plan identifies the air pollution problems that are to be cooperatively addressed on as many fronts as possible to make the region a healthier place to live now and in the future. Like the 1994, 1997, 2000, and 2003 plans, the 2006 air quality attainment plan for the NSVPA focuses adopting and implementing control measures for stationary sources, areawide sources, and indirect sources, and addresses public education and information programs. The 2006 plan also addresses the effect that pollutant transport has on the ability of the NSVPA to meet and attain the state standards.
The plan is based on each county’s projected emissions inventory, which includes stationary, areawide, and mobile sources. Emissions inventories are based on general plans and anticipated development. According to Yuba County’s emissions inventory, mobile sources are the largest contributor to the estimated annual average air pollutant levels of reactive organic gases (ROG), CO, oxides of nitrogen (NOX), and oxides of sulfur (SOX), accounting for approximately 60%, 74%, 85%, and 52%, respectively, of the total emissions. Areawide sources account for approximately 90% and 79% of Yuba County’s PM$_{10}$ and PM$_{2.5}$ emissions, respectively (ARB 2008c).

All projects within the FRAQMD jurisdictional area are subject to adopted FRAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include but are not limited to Rules 3-0, 3-2, and 3-3.

**Thresholds of Significance**

To assist with interpreting and answering the “Thresholds of Significance” questions in the checklist table above, additional thresholds are considered in this analysis. It is common for the significance criteria established by the applicable air quality management or air pollution control district to be relied upon to make significance determinations. Thus, as contained in FRAQMD’s Indirect Source Review Guidelines (FRAQMD 1998), implementation of the proposed project would also result in significant air quality impacts if:

- project-generated operational emissions of ROG and NOX would exceed the FRAQMD-recommended mass emissions threshold of 25 pounds per day (lb/day); or
- project-generated operational emissions of PM$_{10}$ would exceed the FRAQMD-recommended mass emissions threshold of 80 lb/day.

**Emissions of Greenhouse Gases**

At the time of this analysis, no state or local air quality regulatory agency in California, including FRAQMD, has identified a significance threshold for greenhouse gas (GHG) emissions generated by a proposed project, or a methodology for analyzing impacts related to GHG emissions or global climate change. By adopting Assembly Bill (AB) 32 (2006) and Senate Bill (SB) 97 (2007), however, the State of California has established GHG reduction targets and has determined that GHG emissions as they relate to global climate change are a source of adverse environmental impacts in California that should be addressed under CEQA (also refer to the discussion of AB 32 below).

CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; to reduce snowpack, leading to less overall water storage in the Sierra Nevada; to affect rainfall, leading to changes in water supply, increased frequency and severity of droughts, and increased wildfire risk; and to affect habitat and agricultural land, leading to adverse affects on biological and agricultural resources.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. When the adverse change is substantial and the project’s contribution to the impact is considerable, the cumulative impact would be significant. The cumulative project list for this issue (global climate change) comprises anthropogenic (i.e., human-made) GHG emission sources across the entire planet. No project alone would contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context for GHG emissions, and an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that the cumulative impacts of GHGs, even additions that are relatively small on a global basis, need to be considered. Because of the
cumulative nature of the climate change problem, even relatively small contributions may be potentially considerable (and therefore, significant).

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006, enacting Health and Safety Code Sections 38500–38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. In October 2008, ARB published its Climate Change AB 32 Scoping Plan, which is the state’s plan to achieve GHG reductions in California required by AB 32 (ARB 2008d). The scoping plan was approved by ARB on December 11, 2008.

In addition to the scoping plan, ARB has also released the Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act. The proposal recommends adhering to interim performance standards for project types and emissions sources including construction, energy, water use, waste, transportation, and total mass GHG emissions (ARB 2008e). Specific thresholds and performance criteria for these categories have yet to be developed.

For the purposes of this analysis, if the proposed project would substantially conflict with the GHG reduction goals mandated in AB 32, this impact would be significant.

**DISCUSSION**

**a, b, c) Conflict with or obstruct implementation of the applicable air quality plan?**

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

**SHORT-TERM CONSTRUCTION EMISSIONS**

*Less than Significant with Mitigation Incorporated.* Construction emissions are described as “short term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially fugitive dust emissions \( (PM_{10}) \). Fugitive dust emissions are associated primarily with heavy site preparation activities and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on-site and off-site. ROG and NO\(X\) emissions are associated primarily with gas and diesel equipment exhaust. With respect to the proposed project, erosion repairs would result in the temporary generation of ROG, NO\(X\), and PM\(_{10}\) emissions from site preparation (e.g., excavation, grading, and clearing), material transport, material installation, and other miscellaneous activities. On-site construction equipment is assumed to include two excavators, a dozer, a grader, a water truck, six dump trucks, a front-end loader, and an equipment maintenance truck. It is estimated that approximately 26 daily one-way truck trips of roughly 10 miles in length would be needed to transport 6,550 cubic yards (cy) and 75,000 square feet of material (e.g., geotextiles and erosion control matting) necessary for construction. This assumes a truck capacity of 10 cy and 38 days of construction operations. The material for the levee reinforcement would be moved from a nearby quarry and materials distribution center. In addition, up to 50 additional one-way daily vehicle trips would be associated with worker commute trips.
Short-term construction-generated emissions of ROG, NO\textsubscript{X}, and PM\textsubscript{10} were modeled using the FRAQMD-recommended URBEMIS 2007, Version 9.2.4, computer program. Input parameters were based on default model settings and project specific information (e.g., number and type of equipment, amount of material transport). The modeled maximum daily construction emissions are summarized in Table 3.3-2 and described in more detail below and in Appendix A, “Construction-Related Emissions Calculations.”

<table>
<thead>
<tr>
<th>Source</th>
<th>ROG (lb/day)</th>
<th>NO\textsubscript{X} (lb/day)</th>
<th>PM\textsubscript{10} (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levee Repair Activities (2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Equipment Exhaust (^1)</td>
<td>2.8</td>
<td>26.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Fugitive Dust</td>
<td>–</td>
<td>–</td>
<td>19.2</td>
</tr>
<tr>
<td>Total Maximum Unmitigated</td>
<td>2.8</td>
<td>26.9</td>
<td>20.5</td>
</tr>
<tr>
<td>FRAQMD Significance Threshold</td>
<td>25</td>
<td>25</td>
<td>80</td>
</tr>
<tr>
<td>Total Maximum Mitigated</td>
<td>2.7</td>
<td>21.5</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Notes:
- lb/day = pounds per day; NO\textsubscript{X} = oxides of nitrogen; PM\textsubscript{10} = respirable particulate matter; ROG = reactive organic gases
- \(^1\) Accounts for employee commute trips, on-site heavy-duty construction equipment operations, and material transport (e.g., soil and aggregate base).

Source: Data modeled by EDAW in 2008

Based on the modeling conducted, project construction would result in worst-case, maximum unmitigated daily emissions of approximately 3 lb/day of ROG, 27 lb/day of NO\textsubscript{X}, and 21 lb/day of PM\textsubscript{10}. Unmitigated construction-generated PM\textsubscript{10} emissions would exceed FRAQMD’s thresholds. Thus, without mitigation, project construction could result in a contribution to a violation of an air quality standard and would not meet the requirements for dust control set by FRAQMD. FRAQMD requires that a fugitive dust control plan be implemented for any construction activities within FRAQMD jurisdiction. Implementation of FRAQMD’s required fugitive dust control plan and other recommended standard emissions reduction measures would reduce impacts below significance levels. Because these measures are not currently included in the proposed project, short-term emissions could possibly result in a net increase of criteria air pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard; conflict with or obstruct implementation of the applicable air quality plan; or contribute to cumulative effects. Therefore, emissions from the proposed project would be potentially significant. This impact would be reduced to a less-than-significant level with implementation of the FRAQMD-recommended control measures presented in Mitigation Measure AQ-1 below.

**Mitigation Measure AQ-1: Implement FRAQMD-Recommended Emissions Reduction Measures.** TRLIA shall ensure that the construction contractor implements the following FRAQMD-recommended emissions reduction measures (FRAQMD 2008):

- The FRAQMD-required fugitive dust control plan shall be implemented, including but not limited to the following measures:
  - All grading operations on a project should be suspended when winds exceed 20 miles per hour (mph) or when winds carry dust beyond the property line despite implementation of all feasible dust control measures.
• Construction sites shall be watered as necessary to prevent fugitive dust violations.

• An operational water truck should be on-site at all times. Apply water to control dust as needed to prevent visible emissions violations and offsite dust impacts.

• On-site dirt piles or other stockpiled particulate matter shall be covered, wind breaks installed, and/or water or soil stabilizers employed to reduce windblown dust emissions. If using soil stabilizers, only apply approved nontoxic soil stabilizers according to manufacturer’s specifications.

• All transfer processes involving a free fall of soil or other particulate matter shall be operated in such a manner as to minimize the free fall distance and fugitive dust emissions.

• Apply approved chemical soil stabilizers according to the manufacturers’ specifications, to all inactive construction areas (previously graded areas that remain inactive for 96 hours), including unpaved roads and employee/equipment parking areas.

• To prevent track-out, wheel washers should be installed where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out.

• Paved streets shall be swept frequently (water sweeper with reclaimed water recommended; wet broom) if soil material has been carried onto adjacent paved, public thoroughfares from the project site.

• Provide temporary traffic control as needed during all phases of construction to improve traffic flow, as deemed appropriate by the Yuba County Department of Public Works and/or the California Department of Transportation and to reduce vehicle dust emissions.

• Reduce traffic speeds on all unpaved surfaces to 15 mph or less and reduce unnecessary vehicle traffic by restricting access. Provide appropriate training, onsite enforcement, and signage.

• Reestablish ground cover on the construction site as soon as possible after project completion through seeding and watering.

• Open burning shall be prohibited at the project site. No open burning of vegetative waste or other materials (e.g., trash, demolition debris) may be conducted at the project site. Vegetative waste shall be chipped or delivered to waste to energy facilities (permitted biomass facilities), mulched, composted, or reclaimed for other types of reuse. It is unlawful to haul waste materials offsite for disposal by open burning.

• Cover all trucks hauling dirt, sand, soil, gravel, or other loose material, or maintain at least 2 feet of freeboard (minimum vertical distance between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

► Construction equipment exhaust emissions shall not exceed FRAQMD Regulation III, Rule 3.0, Visible Emissions limitations (40% opacity or Ringelmann 2.0). Operators of vehicles and equipment found to exceed opacity limits shall take action to repair the equipment within 72 hours or remove the equipment from service.

► The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of on-site operation.

► Vehicle and equipment idling times shall be limited to 5 minutes.
Existing power sources (e.g., power poles) or clean fuel generators shall be utilized rather than temporary power generators.

A traffic plan shall be developed and implemented to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Operations affecting traffic shall be scheduled for off-peak hours. Obstruction of through-traffic lanes shall be minimized. A flag person shall be provided as needed to guide traffic properly and ensure safety at construction sites.

Portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, may require ARB portable equipment registration with the state or a local district permit. The owner/operator shall be responsible for arranging appropriate consultations with ARB or FRAQMD to determine registration and permitting requirements prior to equipment operation at the site.

**Significance after Mitigation:** With the implementation of Mitigation Measure AQ-1, construction emissions of ROG, NOx, and PM10 from the proposed project would be reduced by approximately 5%, 20%, and 75%, respectively. Thus, emissions would be reduced below FRAQMD significance thresholds for short-term construction emissions and would not be anticipated to result in a contribution to a violation of air quality standards, conflict with implementation of air quality planning efforts, or contribute to cumulative impacts. Therefore, this impact would be less than significant with mitigation incorporated.

**LONG-TERM OPERATIONAL (REGIONAL) EMISSIONS**

**Less-than-Significant Impact.** Other than during project construction, the proposed project includes no equipment, machinery, or other devices that would result in air emissions. As discussed below under Section 3.15, “Transportation/Traffic,” the long-term operation of the proposed project would not cause a significant increase in vehicle traffic on the local roadway system. Thus, project operation would not increase long-term regional ROG, NOx, and PM10 or local CO emissions associated with increases in stationary or mobile sources. In addition, implementation of the proposed project would not result in an increase vehicle miles traveled, and thus would not result in the generation of emissions that conflict with or obstruct implementation of FRAQMD’s air planning efforts. Thus, long-term operational emissions would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. In addition, operational emissions would not result in a cumulatively considerable net increase of criteria air pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard, nor would such emissions conflict with or obstruct implementation of the applicable air quality plan. Therefore, this impact would be less than significant.

**GLOBAL CLIMATE CHANGE**

**Less-than-Significant Impact.** GHG emissions generated by the proposed project would be primarily in the form of carbon dioxide (CO2) from construction equipment exhaust. Although emissions of other GHGs such as methane and nitrous oxide are important with respect to global climate change, the emissions levels of these GHGs for the sources associated with project construction are nominal compared with CO2 emissions, even considering their higher global warming potential. Therefore, all GHG emissions for construction and operation are reported as CO2.

Emissions factors and calculation methods for estimating GHG emissions associated with infrastructure projects have not been formally adopted for use by the state, FRAQMD, or any other air district. The construction-related GHG emissions associated with project implementation were calculated using URBEMIS 2007, Version 9.2.4.

Minimal to no electricity, water, or operational GHG emissions would be associated with implementation of the proposed project.
Construction activities associated with the proposed project would occur over an approximately 2-month period in 2009. During this time, a net increase in GHG emissions would result from various construction activities. Construction-related GHG emissions would be associated with engine exhaust from heavy-duty construction equipment, transport trucks hauling materials (e.g., soil and aggregate), and worker commute trips. Although any increase in GHG emissions would add to the quantity of emissions that contribute to global climate change, it is noteworthy that emissions associated with construction of the proposed project would occur over a finite period of time (i.e., 2 months). After full project buildout, all construction emissions would cease.

To establish additional context in which to consider the order of magnitude of project-generated construction GHG emissions, it may be noted that facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 metric tons of CO₂ per year are mandated to report their GHG emissions to ARB pursuant to AB 32. In addition, ARB has released a preliminary draft staff proposal that recommends 7,000 metric tons of CO₂ per year be used as the baseline threshold for impacts. As shown in Table 3.3-3, estimated GHG emissions associated with construction of the entire project would be approximately 1 metric ton of CO₂ over a 2-month period. Absent any air quality regulatory agency-adopted threshold for GHG emissions, it is notable that the proposed project would generate substantially fewer emissions than 25,000 and 7,000 metric tons of CO₂ per year. This information is presented for informational purposes only, and it is not the intention of the lead agency to adopt 25,000 or 7,000 metric tons of CO₂ per year as a numeric threshold. Rather, the intention is to put project-generated GHG emissions in the appropriate statewide context in order to evaluate whether the proposed project’s contribution to the global impact of climate change would be substantial. Because construction-related emissions would be temporary and finite, and below the minimum standard for reporting requirements under AB 32, the proposed project’s GHG emissions are not considered a considerable contribution to the cumulative global impact. Therefore, this impact would be less than significant.

<table>
<thead>
<tr>
<th>Source</th>
<th>Total Mass CO₂ Emissions (metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Emissions¹</td>
<td>1.3</td>
</tr>
<tr>
<td>2009 Totals</td>
<td></td>
</tr>
<tr>
<td>Total Construction Emissions</td>
<td>1.3</td>
</tr>
<tr>
<td>(2009)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

CO₂ = carbon dioxide

¹ Construction emissions were modeled with the URBEMIS 2007 computer model. The URBEMIS 2007 model does not account for embedded CO₂ emissions associated with the manufacture of construction equipment or production of concrete or other building materials used in project construction. URBEMIS does not estimate greenhouse gas emissions other than CO₂, such as methane and nitrous oxide, as these levels are expected to be nominal in comparison to the estimated CO₂ levels despite their higher global warming potential.

See Appendix A for detailed model input, assumptions, and threshold calculations.

Source: Modeling conducted by EDAW in 2008

d) **Exposure to pollutants**

**Less-than-Significant Impact.** Project construction, including site preparations and implementation of erosion repairs, would result in short-term generation of diesel exhaust emissions from the use of off-road diesel equipment required for site grading and other construction activities. Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a toxic air contaminant (TAC) by ARB in 1998. The dose to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however,
such assessments should be limited to the period/duration of activities associated with the project (Salinas, pers. comm., 2004).

The possible sensitive receptor exposure period for the proposed project is short (less than 2 months), and the primary construction area is more than 500 feet away from any sensitive receptor. FRAQMD does not have any current guidance on TAC emissions from mobile equipment, nor does it have a threshold of significance for exposure to emissions of diesel exhaust. In addition, diesel PM is highly dispersive and studies have shown that measured concentrations of vehicle-related pollutants, including ultra-fine particles, decrease dramatically within approximately 300 feet of the source (Zhu et al. 2002). Because the use of mobilized equipment would be temporary, in combination with the dispersive properties of diesel PM, and because the distance from the primary construction site to the closest sensitive receptor is greater than 500 feet, construction-related TAC emissions would not be anticipated to expose sensitive receptors to substantial pollutant concentrations. Therefore, this impact would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less-than-Significant Impact. Construction of the proposed project would result in diesel exhaust emissions from on-site construction equipment. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. Therefore, these emissions would not result in an objectionable odor that would affect a substantial number of people. In addition, no existing sources of odors are located in the project vicinity, and the proposed project would not include the long-term operation of any new sources. Operation of the proposed project would not result in new permanent odor sources or the siting of sensitive receptors in proximity to odor sources. Therefore, this impact would be less than significant.
### 3.4 BIOLOGICAL RESOURCES

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IV. Biological Resources. Would the project:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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 Game or the U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d) Interferes 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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

This section describes the existing conditions of biological resources within the project site, potentially significant impacts from implementation of the proposed project, and mitigation measures to reduce these potentially significant impacts to a less-than-significant level.

### ENVIRONMENTAL SETTING

Information on biological resources within the project site is based on a review of pertinent literature and databases, including an environmental impact report (EIR), an environmental impact statement, and biological assessments prepared for the nearby Feather River Levee Repair Project. Also consulted were the results of recently completed biological field surveys by EDAW biologists, including nesting raptor breeding surveys conducted in the area in April–July 2008 and a survey of the specific Erosion Site 2 Repair Project site on January 6, 2009. The site-specific survey included a general reconnaissance-level investigation as well as a
protocol-level elderberry shrub (*Sambucus mexicana*) survey consistent with U.S. Fish and Wildlife Service (USFWS) guidelines (USFWS 1999). The purpose of this survey effort was to characterize biological resources present on the project site and in the vicinity and to determine the potential for sensitive biological resources to occur on the project site.

The project site is located near the confluence of the Feather and Yuba Rivers, along the east Feather River levee and south Yuba River levee in Yuba County (Exhibit 3.4-1). The proposed repair activities would occur in a portion of an overflow channel at the river confluence known as the State Cut. The headwaters of the State Cut are located north of SR 70 and the cut extends south to Shanghai Bend. The State Cut is located between the Feather River’s main channel and east levee. Topography in the project vicinity is flat, at about 50–60 feet above mean sea level (msl). Agricultural fields and orchards are present west of the site in the Feather River floodway. The surrounding area is composed of undeveloped land and open space elsewhere in the floodway and residential neighborhoods, roads, and agricultural land on the land side of the levee.

The project site is a highly disturbed area and is composed primarily of ruderal-channelized habitat characterized by sparse, nonnative weedy vegetation on sandy soils. This includes ruderal vegetation such as Bermuda grass (*Cynodon dactylon*), horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), tree-of-heaven (*Ailanthus altissima*), and black mustard (*Brassica nigra*). Local wildlife species observed that are characteristic of row crop agricultural and ruderal habitats include California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), killdeer (*Charadrius vociferous*), red-tailed hawk (*Buteo jamaicensis*), house finch (*Carpodacus mexicanus*), and house sparrow (*Passer domesticus*).

**SENSITIVE BIOLOGICAL RESOURCES**

Sensitive biological resources include plants, animals, and habitats that have been afforded special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are of relatively limited distribution or are of particular value to wildlife. Searches of the California Department of Fish and Game (DFG) California Natural Diversity Database (CNDDB 2008), the USFWS List of Federal Endangered and Threatened Species that May Occur in the Olivehurst U.S. Geologic Survey Quadrangle (USFWS 2008), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2008) were conducted to identify sensitive resources previously documented in the project vicinity. The searches included the Olivehurst, Nicolaus, Sutter Causeway, Browns Valley, Wheatland, Sheridan, Yuba City, Sutter, and Gilsizer Slough U.S. Geological Survey (USGS) 7.5-minute quadrangles. EDAW biologists reviewed the results of the database searches and existing conditions on the project site to develop a list of special-status species with potential to occur on the project site or in the vicinity. An EDAW fisheries biologist was consulted to develop a list of special-status fish species with potential to occur in this region of the Feather and Yuba Rivers.

**Special-Status Species**

Special-status species are those that are federally listed and/or state listed as threatened or endangered; those considered as candidates for listing as threatened or endangered; those identified by USFWS and/or DFG as species of concern and species of special concern, respectively; and animals identified by DFG as fully protected. Special-status plant species are those on CNPS Lists 1A (plants presumed extinct in California), 1B (plants rare, threatened, or endangered in California and elsewhere), or List 2 (plants rare, threatened, or endangered in California but more common elsewhere).

All raptors are protected under Section 3503.5 of the California Fish and Game Code, which prohibits take or destruction of raptors, including their nests and eggs. Raptor species that could nest and forage in the project vicinity include Swainson’s hawk, Cooper’s hawk, sharp-shinned hawk, American kestrel, red-tailed hawk, red-shouldered hawk, northern harrier, white-tailed kite, great horned owl, and burrowing owl.
Occurrences of Special-Status Species in the Project Vicinity

Exhibit 3.4-1

Three Rivers Levee Improvement Authority
Erosion Site 2 Repair Project IS/MND

EDAW
Environmental Checklist
**Special-Status Plant Species**

Seven special-status plant species are documented in the CNDDB and/or CNPS databases as occurring in the project vicinity: Ferris’ milkvetch (Astragalus tener var. ferrisiae), dwarf downingia (Downingia pusilla), rosemallow (Hibiscus lasiocarpus), legenere (Legenere limosa), veiny monardella (Monardella douglasii ssp. venosa), Hartweg’s golden sunburst (Pseudobahia bahifolia), and Wright’s trichocoronis (Trichocoronis wrightii var. wrightii). All of these species are associated with vernal pool, freshwater marsh, and/or valley and foothill grassland habitats. The highly disturbed conditions at the project site greatly limit potential of the site to support any special-status plants. In addition, no vernal pool, freshwater marsh, or valley and foothill grassland habitats occur at the project site. Therefore, no special-status plants are expected to occur on the project site and none would be affected by project activities.

**Special-Status Wildlife Species**

The CNDDB search identified occurrences of eight special-status wildlife species within 5 miles of the project site (Exhibit 3.4-1). The special-status species list provided by USFWS (2008) and review of past documents prepared for other projects along the Feather and Yuba Rivers in Yuba County identified 13 additional species with potential to occur in the general project area. Based on conditions in the project vicinity and habitat requirements for the 21 special-status species identified in the CNDDB search, USFWS list, and other sources, suitable habitat for 10 of these special-status wildlife species does not exist within or adjacent to the project site: vernal pool tadpole shrimp (Lepidurus packardi), vernal pool fairy shrimp (Branchinecta lynchi), conservancy fairy shrimp (Branchinecta conservatio), California linderiella (Linderiella occidentalis), Sacramento winter-run Chinook salmon (Oncorhyncus tsawytscha), delta smelt (Hypomesus transpacificus), California red-legged frog (Rana aurora draytonii), giant garter snake (Thamophis gigas), tricolored blackbird (Agelaius tricolor), and bank swallow (Riparia riparia). These species will not be discussed further. The remaining 11 species are considered to have some potential to occur in the project vicinity. The names of these species, their protection statuses, habitat requirements, and information on their potential to occur on or adjacent to the project site are provided in Table 3.4-2. Additional information on each species is also provided below.

<table>
<thead>
<tr>
<th>Table 3.4-2</th>
<th>Special-Status Wildlife Species with Potential to Occur in the Project Vicinity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species</strong></td>
<td><strong>Status</strong></td>
</tr>
<tr>
<td>Invertebrates</td>
<td></td>
</tr>
<tr>
<td>Valley elderberry longhorn beetle Desmocerus californicus dimorphus</td>
<td>T</td>
</tr>
<tr>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td>Southern DPS of North American green sturgeon Acipenser medirostris</td>
<td>T</td>
</tr>
<tr>
<td>Hardhead Mylopharodon conocephalus</td>
<td>–</td>
</tr>
</tbody>
</table>
## Table 3.4-2
Special-Status Wildlife Species with Potential to Occur in the Project Vicinity

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Habitat</th>
<th>Potential for Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley spring-run Chinook salmon ESU <em>Oncorhynchus tshawytscha</em></td>
<td>T</td>
<td>Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.</td>
<td>Occurs in the lower Feather and Yuba Rivers. Migrates through and may rear in the project vicinity infrequently during large flow events. Does not spawn in the area.</td>
</tr>
<tr>
<td>Central Valley fall/late fall–run chinook salmon ESU <em>Oncorhynchus tshawytscha</em></td>
<td>–</td>
<td>Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.</td>
<td>Occurs in the lower Feather and Yuba Rivers. Migrates through and may rear in the project vicinity infrequently during large flow events. Does not spawn in the area.</td>
</tr>
<tr>
<td>Central Valley steelhead DPS <em>Oncorhynchus mykiss</em></td>
<td>T</td>
<td>Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.</td>
<td>Occurs in the lower Feather and Yuba Rivers. Migrates through and may rear in the project vicinity infrequently during large flow events. Does not spawn in the area.</td>
</tr>
<tr>
<td>Sacramento splittail <em>Pogonichthys macrolepidotus</em></td>
<td>–</td>
<td>Spawning and juvenile rearing from winter to early summer in shallow weedy areas inundated during seasonal flooding in the lower reaches and flood bypasses of the Sacramento River, including the Yolo Bypass.</td>
<td>Adults may occasionally occur in the lower Feather and Yuba Rivers.</td>
</tr>
</tbody>
</table>

### Birds

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Habitat</th>
<th>Potential for Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burrowing owl <em>Athene cunicularia</em></td>
<td>–</td>
<td>Nests and forages in grasslands, shrublands, deserts, and agricultural fields, especially where ground squirrel burrows are present.</td>
<td>Could occur year round; suitable nesting and foraging habitat is present both on and adjacent to the project site.</td>
</tr>
<tr>
<td>Swainson’s hawk <em>Buteo swainsoni</em></td>
<td>–</td>
<td>Nests in riparian woodlands and isolated trees; forages in grasslands, shrublands, and agricultural fields.</td>
<td>Known to nest in the project vicinity in late spring and summer. Suitable nesting and foraging habitat is present adjacent to the project site.</td>
</tr>
<tr>
<td>Northern harrier <em>Circus cyanus</em></td>
<td>–</td>
<td>Nests and forages in a variety of open habitats including marshes, grasslands, shrublands, and agricultural fields.</td>
<td>Could occur year round; suitable nesting and foraging habitat is present adjacent to the project site.</td>
</tr>
<tr>
<td>White-tailed kite <em>Elanus leucurus</em></td>
<td>–</td>
<td>Nests in woodlands and isolated trees; forages in grasslands, shrublands, and agricultural fields.</td>
<td>Could occur year round; suitable nesting and foraging habitat is present adjacent to the project site.</td>
</tr>
</tbody>
</table>

### Notes:
- Delta = Sacramento–San Joaquin Delta; DFG = California Department of Fish and Game; DPS = Distinct Population Segment; ESU = Evolutionarily Significant Unit; USFWS = U.S. Fish and Wildlife Service
- **Legal Status Definitions:**
  - U.S. Fish and Wildlife Service
    - T Threatened (legally protected)
    - FP Fully Protected (legally protected, no take allowed)
    - SSC Species of Special Concern (no formal protection)
  - California Department of Fish and Game
    - T Threatened (legally protected)
    - FP Fully Protected (legally protected, no take allowed)
    - SSC Species of Special Concern (no formal protection)

### Sources:
- Data provided by EDAW in 2008; CNDDB 2008; USFWS 2008
Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is federally listed as threatened. This species requires blue elderberry shrubs for reproduction and survival. Two blue elderberry shrubs are present on or adjacent to the project site (Exhibit 3.4-2). Both shrubs contain multiple stems measuring greater than 1.0 inch or greater in diameter when measured at ground level and thus have the potential to support Valley elderberry longhorn beetle. No beetle exit holes were observed on the stems.

Burrowing Owl

Burrowing owl is a California species of special concern. The CNDDB does not document any burrowing owls within 5 miles of the project site; however, potential habitat is present. Burrowing owls typically nest and roost in burrows created by burrowing animals, such as ground squirrels, which are present but not abundant on the project site. Burrowing owls commonly forage in agricultural habitats similar to those in the project vicinity.

Swainson’s Hawk

Swainson’s hawk is state listed as threatened. This species nests in large trees such as oak and cottonwood and forages in grasslands, low shrublands, and fields of short agricultural crops, such as alfalfa and tomato. The Swainson’s hawk breeding season is defined by DFG as March 1–September 15. Many Swainson’s hawk nesting occurrences have been recorded by the CNDDB within 5 miles of the project site. The nearest Swainson’s hawk nest is approximately 0.6 mile from the project site, based on surveys conducted by EDAW in 2008. The project area provides potential foraging habitat for this species. Trees bordering the agricultural fields and in the adjacent riparian habitat along the existing levee provide suitable nest sites for this species.

Northern Harrier

Northern harrier is a California species of special concern. It nests in densely vegetated fields, such as annual grassland and alfalfa, and forages in grasslands, low shrublands, and fields of short agricultural crops, such as alfalfa and tomato. This species inhabits the Central Valley throughout the year. The CNDDB does not document any northern harrier within 5 miles of the project site; however, potential habitat is present. Northern harriers could use the project site as it provides suitable foraging habitat.

White-Tailed Kite

White-tailed kite is a fully protected species under California law. It nests in trees such as oak and cottonwood and forages in grasslands, low shrublands, and fields of short agricultural crops, such as alfalfa and tomato. This species inhabits the Central Valley throughout the year. The nearest white-tailed kite nest occurrence recorded by CNDDB is approximately 3.3 miles from the project site. White-tailed kites could use the project site, as it provides suitable foraging habitat.

Special-Status Fish Species

Historically, the Feather and Yuba Rivers supported a diverse population of native fish species, including several species that are currently designated as special-status—fall-/late fall–run Chinook salmon, steelhead, and green sturgeon (Table 3.4-2). Currently, the anadromous fish populations in these rivers (i.e., salmon, steelhead, and green sturgeon) are reduced from historic levels due to habitat degradation (e.g., temperature and flow) and upstream migration barriers (e.g., dams). Populations of hardhead, a California species of concern, appear to be more stable.
Project Design and Biological Resources

Source: GEI 2008; EDAW 2009
Sensitive Habitats

Sensitive habitats are those that are of special concern to resource agencies, or that are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, and/or Section 404 of the Clean Water Act (CWA). Ruderal channelized habitat in the State Cut would be considered potential jurisdictional waters of the United States, subject to regulation under CWA Section 404 and Section 1602 of the California Fish and Game Code.

Other habitats considered sensitive by DFG are those identified as “rare and worthy of consideration” in natural communities recognized by the CNDDDB. These sensitive communities provide essential habitat to special-status species that are often restricted in distribution or decreasing throughout their range. No natural communities recognized by the CNDDDB are located within the project vicinity.

DISCUSSION

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

Special-Status Plants

No Impact. The project site does not support suitable habitat for special-status plants and none are expected to occur. Therefore, no impact would occur.

Valley Elderberry Longhorn Beetle

Less than Significant with Mitigation Incorporated. Two elderberry shrubs were documented within 100 feet of the project site. Both shrubs are located within the Feather River floodway northwest of the project site (Exhibit 3.4-2). One of the shrubs is located within the 50-foot temporary construction easement to be used as a staging and laydown area and within 100 feet of the proposed rock slope repair and revegetation sites, approximately 28 feet from the haul road, and the other is approximately 53 feet northwest of the haul road along the waterside levee toe. None of the stems surveyed had exit holes. Neither shrub is located in the areas where erosion repairs would be placed, nor would they be removed as a part of project activity. However, the potential exists for damage and mortality to these shrubs from nearby construction activities associated with the proposed project. Therefore, this impact would be potentially significant.

According to the USFWS Conservation Guidelines for Valley Elderberry Longhorn Beetle (USFWS 1999), a 100-foot buffer around elderberry shrubs shall be established by the project applicant wherever feasible to completely avoid potential impacts on valley elderberry longhorn beetle. Where a 100-foot buffer is not feasible, a minimum buffer of 20 feet from the dripline shall be maintained around each elderberry shrub. Implementation of Mitigation Measure Bio-1 would reduce the potentially significant impact on valley elderberry longhorn beetle to a less-than-significant level.

Mitigation Measure Bio-1: Maintain a Minimum 20-Foot Buffer Around Elderberry Shrubs. TRLIA shall implement the following measures, based on USFWS guidelines (USFWS 1999) to reduce adverse impacts on valley elderberry longhorn beetle:

- TRLIA shall establish and maintain a minimum buffer of 20 feet around each elderberry shrub through the duration of project construction. The 20-foot minimum distance shall be measured from the dripline of the shrub. Buffer areas shall be clearly marked in the field with brightly colored temporary construction fencing. No project activity shall occur within the buffer areas.
► No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

► Following USFWS guidelines (USFWS 1999), construction crews shall be informed about the status of the beetle and the need to protect its elderberry host plant. If requested by USFWS, a qualified biologist shall monitor construction activities to ensure that the buffers remain protected throughout the construction period.

**Special-Status Fish Species**

**Less-than-Significant Impact with Mitigation Incorporated.** Construction-related increases in sediments, turbidity, and contaminants could adversely affect fish habitats immediately adjacent to and downstream of project construction activities, possibly resulting in adverse indirect effects on special-status fish species. These effects include reduction in growth, survival, or reproduction success of individuals. This impact would be potentially significant.

No riparian vegetation potentially providing overhead cover for fish or contributing instream woody material to the Feather River channel (i.e., shaded riverine aquatic habitat) would be removed or cleared as part of project implementation. Implementation of Mitigation Measure Bio-2 along with Mitigation Measure Haz-1 in Section 3.7, “Hazards and Hazardous Materials,” would reduce potentially significant adverse impacts on special-status fish species to a less-than-significant level.

**Mitigation Measure Bio-2: Develop and Implement Best Management Practices to Avoid and Minimize Impacts on Water Quality.** All federal, state, and local regulations and environmental requirements regarding turbidity reduction measures shall be complied with, including the DFG streambed alteration agreement, Central Valley Regional Water Quality Control Board (RWQCB) CWA Section 401 certification, and CWA Section 404 authorization.

**Nesting Raptors/Special-Status Birds**

**Less-than-Significant Impact with Mitigation Incorporated.** One special-status bird species, burrowing owl, could nest within the project site. Three other special-status bird species—Swainson’s hawk, white-tailed kite, and northern harrier—could nest near the project site. In addition to these special-status species, several common raptor species could nest in the project vicinity. The nests of all raptor species are protected under Section 3503.5 of the California Fish and Game Code. Nest disturbance resulting from project construction has the potential to cause nest abandonment or the loss of eggs or chicks as a result of reduced parental care. The proposed project would not remove any known or potential nesting trees for special-status birds or common raptors. Loss of a nest for other special-status bird species or a raptor nest caused by disturbance during project construction would be a significant project impact. Therefore, this impact would be potentially significant. Implementation of Mitigation Measure Bio-3 would reduce this impact to a less-than-significant level.

**Mitigation Measure Bio-3: Conduct Preconstruction Surveys for Tree-Nesting Raptors.** TRLIA shall implement the following measures to reduce potentially significant adverse impacts on Swainson’s hawk and other common and special-status tree nesting raptors:

► If project activity is scheduled to occur during the raptor nesting season (March 1–September 15), a focused survey for raptors shall be conducted by a qualified biologist before commencement of activities to identify active nests on the project site and in the vicinity. Surveys for Swainson’s hawk nests shall include all areas of suitable nesting habitat within 0.25 mile of the project site. Surveys for other raptors shall include suitable nesting habitat within 500 feet of the areas where construction would occur. If no active nests are found, no further mitigation shall be required.
If active nests are found during the surveys, appropriate buffers shall be established to minimize impacts. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffers may be adjusted, depending on the project activity and stage of the nest, if a qualified biologist determines that activity within a reduced buffer would not be likely to adversely affect the adults or their young.

TRLIA shall implement the following measures to reduce potentially significant adverse impacts on burrowing owls:

- Before any ground-disturbing project-related construction activity, a focused survey for burrowing owls shall be conducted by a qualified biologist in accordance with DFG protocol (DFG 1995) to identify active burrows on and within 250 feet of each project site. The surveys shall be conducted no more than 30 days before the beginning of construction.

- If no occupied burrows are found in the survey area, the biologist shall document survey methods and findings in a letter report to DFG, and no further mitigation is required.

- If an occupied burrow is found, a buffer shall be established for all project-related construction activities. The buffer shall be 165 feet during the nonbreeding season (September 1–January 31) or 250 feet during the breeding season (February 1–August 31). The size of the buffer area may be adjusted if a qualified biologist and DFG determine that project-related construction activities would not be likely to have adverse effects. No project-related construction activity shall commence within the buffer area until a qualified biologist confirms that the burrow is no longer occupied, or consultations with DFG specifically allow certain construction activities to continue.

- If maintenance of acceptable buffer distances is infeasible, passive relocation techniques approved by DFG shall be used to encourage owls to move to alternative burrows outside of the project site. However, relocation efforts shall not be attempted during the burrowing owl nesting season unless a qualified biologist verifies through noninvasive methods that no eggs or chicks are in the burrow.

**Habitat for Special-Status Birds**

**Less-than-Significant Impact.** The project site is located on 5.42 acres of ruderal channelized habitat and vegetated levee slope. Project construction would result in the temporary loss of approximately 5.42 acres of potential foraging habitat for Swainson’s hawk, white-tailed kite, burrowing owl, and northern harrier, and a similar temporary loss of potential nesting habitat for burrowing owl. Given the small area of existing habitat that would be temporarily disturbed by project construction, and the fact that higher quality habitat is abundant in the project vicinity, this impact would be less than significant.

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

**Less than Significant with Mitigation Incorporated.** Riparian habitat or other sensitive natural communities do not occur on or near the project site. However, the ruderal channelized habitat below the ordinary high-water mark (OHWM) is afforded protection by Section 1602 of the California Fish and Game Code. Therefore, this habitat is considered sensitive by a state resource agency and is considered in this CEQA analysis. Implementation of project activities would result in disturbance to approximately 5 acres of this habitat type during project construction. This impact would be potentially significant. Implementation of Mitigation Measure Bio-4 would reduce this impact to a less-than-significant level.

**Mitigation Measure Bio-4: Obtain a Streambed Alteration Agreement from DFG.** To avoid, minimize, and mitigate impacts to land afforded protection by Section 1602 of the California Fish and Game Code, TRLIA shall obtain a
Section 1602 streambed alteration agreement from DFG and shall comply with all conditions contained within the permit.

c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Less-than-Significant Impact.** The project site does not support federally protected wetlands as defined by Section 404 of the CWA. However, the entire project site is below the OHWM of the Feather River and therefore is considered potentially jurisdictional waters of the United States. Any fill of waters of the United States is subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the CWA. The eastern slope of the State Cut channel below the waterside levee toe would be regraded and armored with rock. Although project activities would include fill below the OHWM, there would be no net loss of functions or value of this habitat. Therefore, this impact would be less than significant.

d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Less-than-Significant Impact.** A wildlife corridor is generally a topographical or landscape feature, or movement area, that connects two open-space habitat parcels that would otherwise be entirely fragmented or isolated from one another. Although a variety of wildlife species may use the project site, it does not function as a known or major migratory corridor. Project construction and operation would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Therefore, this impact would be less than significant.

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

**No Impact.** Local policies or ordinances that apply to the project site include the County General Plan (Yuba County 1996), which includes several resource conservation objectives that aim to protect significant biological resources such as valley oaks, and the *Yuba County Voluntary Individual Oak and Oak Woodland Management Plan*. Federal projects are not subject to local tree ordinances. Furthermore, no valley oaks (*Quercus lobata*) or other native trees exist on the project site, so the proposed activities would not involve removal of native trees. Therefore, no impact would occur.

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

**No Impact.** No habitat conservation or natural community conservation plans are in effect that would apply to the project site. Therefore, no impact would occur.
3.5 CULTURAL RESOURCES

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>
| V. Cultural Resources. Would the project:  
  a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? | ☐ | ☐ | ☒ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☒ | ☐ | ☐ |

REGULATORY SETTING

CEQA provides a broad definition of what constitutes a cultural or historical resource. Cultural resources can include traces of prehistoric habitation and activities, historic-era sites and materials, and places used for traditional Native American observances or places with special cultural significance. In general, any trace of human activity more than 50 years in age is required to be treated as a potential cultural resource.

CEQA states that if a project would have significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources (termed “historical resources”) need to be addressed. The State CEQA Guidelines define a historical resource as a resource listed or eligible for listing on the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1). A resource may be eligible for inclusion 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 the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

The State CEQA Guidelines also require consideration of unique archaeological resources (Section 15064.5). As used in the Public Resources Code (Section 21083.2), the term “unique archaeological resource” means 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:

1. contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
2. has a special and particular quality such as being the oldest of its type or the best available example of its type, or

3. is directly associated with a scientifically recognized important prehistoric or historic event or person.

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 (California Office of Historic Preservation 1999:69–70).

ENVIRONMENTAL SETTING

PREHISTORIC, ETHNOGRAPHIC, AND HISTORIC CONTEXT

Generally speaking, the archaeology of Yuba County is included within the broad framework established by archaeologists for the Sacramento Valley. Although human occupation of the northern Sacramento Valley may extend back 10,000 years or more, reliable evidence of the presence of such an early human presence is lacking. Early archaeological sites bearing evidence of these Paleo-Indian populations may be present in the valley but deeply buried under alluvium (Moratto 1984). The following summary of the prehistoric cultural sequence is drawn primarily from Moratto (1984).

Reliable evidence of early occupation in the northern Sacramento Valley dates after 8,000 years before present (B.P.) (Johnson et al. 1984). The Borax Lake Pattern of the Lower Archaic Period (8000–5000 B.P.) is defined by certain material items such as wide-stemmed projectile points, hand-stones, milling stones, and bowl mortars. The Late Borax Lake Pattern, which archaeologists date to the Middle Archaic Period (5000–2500 B.P.), represents a continuation of the earlier Borax Lake Pattern. Late Borax Lake is distinguished from the earlier manifestation by a greater diversity of projectile point types and use of the spear thrower (atl-atl).

During the Upper Archaic Period (2500–1500 B.P.), early cultures of the Sacramento Valley exhibited a shift to predominant use of mortars and pestles instead of hand-stones and milling stones. This change may reflect an increased reliance on acorns as a staple food by the valley’s indigenous population.

The Emergent Period (1500–200 B.P.) in Sacramento Valley prehistory is represented by the Shasta Aspect of the Augustine Pattern. Shasta Aspect archaeological sites are typically located near watercourses, contain semi-subterranean dwellings and new artifact types, and reflect a hunting and gathering economy focused on acorn procurement. Moratto (1984) proposed that the Shasta Aspect represents the influence and intrusion of peoples from farther north in California. Toward the end of this period, extensive Euro-American influences began to adversely affect native cultures throughout California.

The project site is situated within the area occupied and used by the Nisenan, or Southern Maidu. The language of the Nisenan, which includes several dialects, is classified within the Maiduan family of the Penutian linguistic stock (Kroeber 1925, Shipley 1978). The western boundary of Nisenan territory was the western bank of the Sacramento River. The eastern boundary was “the line in the Sierra Nevada mountains where the snow lay on the ground all winter” (Littlejohn 1928:13).

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Wilson and Towne (1978) indicate that village size ranged from three houses to up to 40 or 50. During expeditions in 1833, Work (in Maloney 1944) indicated that these villages along the Feather River were composed of as many as 200 individuals. Houses were domed structures covered with earth and tule or grass and measured 10–15 feet in diameter. Brush shelters were used in summer and at temporary camps during food-gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush and had a
central smoke hole at the top and an east-facing entrance. Another common village structure was a granary, which was used for storing acorns (Wilson and Towne 1978). Four Nisenan villages, Yupu, Taisida, Molokum, and Mimal were located near the confluence of the Feather and Yuba Rivers (Wilson and Towne 1978), but none are within the project site or in the immediate vicinity.

The earliest Euro-American settlement in what is now Yuba County coincided with the establishment of land grants by the Mexican government in the 1840s. John A. Sutter obtained the first such grant in the region in 1841. Sutter’s New Helvetia Rancho encompassed lands on the east bank of the Feather River, including the area of Erosion Site 2 (General Land Office 1859).

Beginning in 1849, prospectors and entrepreneurs overran the streams of the Sierra Nevada in search of riches. Miners initially established their claims and workings on watercourses and then gradually worked back from the flats adjacent to streams, ridges, and hillsides. By 1857, hydraulic mining began to replace the smaller-scale placer methods and extracting placer gold was no longer restricted to the immediate stream channel and bars. Debris from hydraulic operations destroyed or buried many of the older mining camps (Hoover et al. 1990).

During the Gold Rush era, the city of Marysville flourished, becoming one of the largest cities in California. In 1857, a very prosperous year, more than $10 million in gold mined from the area was shipped from Marysville to the U.S. Mint in San Francisco. Because of extensive hydraulic mining in the Sierra Nevada, sediment raised the riverbeds of the Feather and Yuba Rivers, making Marysville vulnerable to flooding during winter storms and spring runoff. This caused the city to build a levee system, which still protects Marysville today.

**PREVIOUSLY DOCUMENTED CULTURAL RESOURCES IN THE PROJECT VICINITY**

Technical studies conducted by EDAW in 2009 for the proposed Erosion Site 2 Repair Project began with a records search of pertinent cultural resources information curated by the North Central Information Center (NCIC) of the California Historical Resources Information System. The records search included but was not necessarily restricted to a review of select publications and properties listed in the following sources:

- California Office of Historic Preservation Historic Property Data File and Determinations of Eligibility (December 2008)
- **National Register of Historic Places/California Register of Historic Resources** (2006)
- **California Inventory of Historic Resources** (State of California 1976)
- **State Historic Landmarks** (State of California 1992a and updates)
- **California Points of Historic Interest** (State of California 1992b and updates)
- **Inventory of Historic Bridges** (Caltrans 1987, 2000)
- General Land Office Plat Map (New Helvetia) Township 15 North, Range 3 East (General Land Office 1859)
- USGS Historic Map, Ostrom Quadrangle (USGS 1909a)
- USGS Historic Map, Yuba City Quadrangle (USGS 1909b)

The files maintained at the NCIC contain information on previously conducted archaeological investigations that occurred near the area of potential effects. The results of this records search indicates that two studies have been conducted that encompass the project site and seven additional studies have been conducted within one-quarter mile of the project site. These investigations are summarized in Table 3.5-1.
STUDIES NEAR THE PROJECT SITE

Of the seven investigations conducted within one-quarter mile of the project site, two resulted in the identification of cultural resources. Storm (n.d.) conducted an inventory for a drainage project in West Linda, directly east of the left (east) Feather River levee. The presence of CA-YUB-164, a prehistoric occupation site, was noted in the study. Jones & Stokes (2004) identified two resources north of the project site. The historic Western Pacific Railroad, completed in 1909 and acquired by the Union Pacific Railroad in the 1980s, is listed in the National Register of Historic Places (NRHP). In 2007, EDAW (TRLIA 2007a) evaluated the segment of the Western Pacific Railroad at its intersection with the east Feather River levee and, while acknowledging the NRHP eligibility of the route as a whole, EDAW recommended that this segment did not contribute to NRHP significance. The California State Historic Preservation Officer concurred with this recommendation.

Table 3.5-1
Summary of Previous Investigations

<table>
<thead>
<tr>
<th>Report Title</th>
<th>NCIC File No.</th>
<th>Author and Date</th>
<th>Resources Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Linda Drainage Project</td>
<td>2497</td>
<td>Storm (n.d.)</td>
<td>CA-YUB-164</td>
</tr>
<tr>
<td>Negative Archaeological Survey Report</td>
<td>2755</td>
<td>Offerman (2001)</td>
<td>None</td>
</tr>
<tr>
<td>Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project</td>
<td>3853</td>
<td>Nelson, Carpenter, and Holanda (2000)</td>
<td>None</td>
</tr>
<tr>
<td>Cultural Resources Inventory for the Yuba River Levee Improvement Project, Yuba County, California</td>
<td>7909</td>
<td>Jones &amp; Stokes (2004)</td>
<td>Western Pacific Railroad and YC-3, outside project site</td>
</tr>
<tr>
<td>Cultural Resource Assessment of the Proposed Wastewater Treatment Plant Modification Along the Southern Bank of the Yuba River, Yuba County, California</td>
<td>7910</td>
<td>Peak and Associates (1988)</td>
<td>None</td>
</tr>
<tr>
<td>Sacramento River Flood Control System Evaluation, Marysville–Yuba City Area, Cultural Resources Survey</td>
<td>7922</td>
<td>Bouey (1990)</td>
<td>None</td>
</tr>
<tr>
<td>Cultural Resources Baseline Literature Review for the Urban Levee Project</td>
<td>9423</td>
<td>URS Corporation (2008)</td>
<td>None</td>
</tr>
<tr>
<td>Cultural Resources Assessment for the Feather River Levee Repair Project Segments 1 and 3, Yuba County, California</td>
<td>–</td>
<td>TRLIA 2007a</td>
<td>C-YCWA-3—Feather River Levee within project site, others outside project site</td>
</tr>
</tbody>
</table>

Note: NCIC = North Central Information Center; RD = Reclamation District
Source: North Central Information Center; data compiled by EDAW in 2008

STUDIES ENCOMPASSING THE PROJECT SITE

Two cultural resources studies have been conducted that encompass the area proposed for the Erosion Site 2 Repair Project. JRP Historical Consulting Services conducted an NRHP eligibility assessment of the elements constituting Reclamation District (RD) 784, which includes the east Feather River levee. Because of a lack of
integrity, none of the elements, including the Feather River levee, drains, and pumping stations, were recommended eligible for listing (JRP Historical Consulting Services 1994). EDAW, in a cultural resources study evaluating Segments 1 and 3 of the FRLRP (TRLIA 2007a), agreed with this recommendation. The Segment 1 and 3 FRLRP study found no evidence of cultural resources in or near the Erosion Site 2 project area.

**NATIVE AMERICAN COORDINATION**

EDAW, on behalf of TRLIA, consulted with the Native American Heritage Commission (NAHC) and local Native American groups and individuals. The response from the NAHC indicated that there are no cultural resources or areas of sensitivity on file within the project site or in the vicinity. Coordination is currently in progress with local Native American groups. A site visit was conducted on February 2, 2009, with a representative from the Enterprise Rancheria.

**FIELD INVESTIGATIONS**

A survey of the project site was conducted by EDAW in December 2008 (TRLIA 2009). The entire 762-meter (2,500-foot) linear area was subjected to intensive inventory using 10-meter parallel pedestrian transects oriented north/south, following the curve of the existing levee. At the north end of the project site, approximately seven burned wooden timbers (ER 1), resembling telephone poles, are all that remain of an unidentified structure. Less than a foot of the poles are visible. They are not placed in any distinct pattern and their prior function is not clearly evident. A review of historic maps and archival records failed to identify any historic structures at this location. The potential function may have been associated with operations or some element of RD 784 that has subsequently been demolished. This feature is an isolated find with no associated elements observed. Because of a lack of integrity, none of the elements of this isolated find are recommended eligible for listing on the CRHR.

**THRESHOLDS OF SIGNIFICANCE**

Beyond the thresholds of significance provided in the checklist table above, the following information is also used to assist in evaluating the significance of impacts on cultural resources.

A substantial adverse change in the significance of a historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its significance and qualify it for inclusion in the CRHR or in a local register or survey that meets the requirements of Public Resources Code Sections 5020.1(k) and 5024.1(g).

**DISCUSSION**

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

**Less-than-Significant Impact.** Two resources, the east Feather River levee and an isolated feature (ER 1) consisting of a collection of cut-off timbers, were identified within the project site. JRP Historical Consulting Services (1994) recommended and it was later determined that the Feather River east levee, a feature of RD 784, is not singularly eligible for the NRHP and is not a contributing element to NRHP eligibility of RD 784. In addition, it would not be significantly affected by temporary ground-disturbing activities associated with the proposed project. Because of a lack of integrity, the isolated feature (ER 1) was also recommended as not eligible/not significant for inclusion on the NRHP/CRHR. Therefore, this impact would be less than significant.
b) **Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

**Less than Significant with Mitigation Incorporated.** Although archival and field research revealed the presence of only two historic-era cultural resources within the project site, which are not NRHP/CRHR eligible, undiscovered subsurface cultural remains may be present in the area and could be disturbed by the proposed project. In light of the potential to uncover unknown or undocumented subsurface cultural remains, this impact would be potentially significant. Implementation of Mitigation Measure Cul-1 would reduce this impact to a less-than-significant level.

**Mitigation Measure Cul-1: Immediately Halt Construction Activities if Any Cultural Materials Are Discovered.** If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, flaked stone, bottle glass, ceramics, structure/building remains, etc.) is encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential additional data recovery.

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

**No Impact.** Based on the geotechnical report prepared by GEI (TRLIA 2007b), the soils on the project site consist of an upper foundation sand layer and a layer of silt ranging in thickness from about 15 to 23 feet. Most of these sediments can be attributed to hydraulic mining debris that dates from the 1850s. By definition, to be considered a fossil, an object must be more than 11,000 years old. Therefore, soils encountered during project construction could not contain intact fossil features (other than potential individual isolates carried from upstream). Therefore, no impact would occur.

d) **Disturb any human remains, including those interred outside of formal cemeteries?**

**Less than Significant with Mitigation Incorporated.** Although no evidence of human remains was found in documentary research and an intensive field investigation, future ground-disturbing activities on the project site could adversely affect presently unknown prehistoric burials. California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. In light of the potential to uncover unknown or undocumented Native American burials, this impact would be potentially significant. Implementation of Mitigation Measure Cul-2 would reduce this impact to a less-than-significant level.

**Mitigation Measure Cul-2: Immediately Halt Construction Activities if Any Human Remains Are Discovered.** The procedures for the treatment of discovered human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code and Section 5097 of the California Public Resources Code.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, all such activities within 75 feet of the find shall be halted immediately and TRLIA or its designated representative shall be notified. TRLIA shall immediately notify the county coroner and a qualified professional archaeologist. 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 (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 (Health and Safety Code, Section 7050[c]). TRLIA’s responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in Section 5097.9 of the California Public Resources Code. TRLIA or its appointed representative and the professional archaeologist shall consult with a Most Likely Descendant (MLD) determined by the NAHC.
regarding the removal or preservation and avoidance of the remains and shall determine whether additional burials could be present in the vicinity.

Assuming that an agreement can be reached between the MLD and TRLIA or their representative with the assistance of the archaeologist, these steps would minimize or eliminate adverse impacts on the uncovered human remains.
## 3.6 GEOLGY AND SOILS

### ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>VI. Geology and Soils. Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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.)</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>iv) Landslides?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

This section describes the geologic and soil conditions in the project vicinity and evaluates potential effects of the project related to unstable soils, soil erosion, and seismic activity. The discussion and analysis in this section is based primarily on data presented in the geology and soils section of the EIR prepared by TRLIA for the Feather River Levee Repair Project (FRLRP) (TRLIA 2006).

### ENVIRONMENTAL SETTING

The project site is located within the northeastern portion of the Sacramento Valley, which, together with the San Joaquin Valley, comprises the Great Valley geomorphic and geotectonic province. The existing Feather River and Yuba River levees in the vicinity of the project site overlie Holocene-age (i.e., 10,000 years B.P. to present day), channel deposits that are anticipated to be poorly consolidated, well-sorted sands, silts, clays, and gravels. These deposits occur as gravelly sand, silt, and clay from flood events along the Feather River and its tributaries. This unit overlies the older Pleistocene (i.e., 10,000–1,800,000 years B.P.) alluvium and ranges in thickness from 5 to 15 feet.
The project site is within east central California, an area that has experienced relatively low seismic activity in the past. The project is not located in an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 1999). A geotechnical field investigation was conducted in the local area related to the early studies for a setback of the lower Feather River levee as part of the Yuba-Feather Supplemental Flood Control Project. No evidence of faulting was interpreted from data recovered in this geotechnical field investigation (YCWA 2003). No evidence of faulting has been found during further site specific investigations associated with the design and implementation of the FRLRP.

The landforms in the project region include floodplains, stream terraces, and fan terraces. Floodplains are located along the major rivers as well as along the smaller creeks and drainages. The topography in the Sacramento Valley is generally flat.

The Natural Resources Conservation Service’s (NRCS’s) online database includes map unit descriptions and related data for the major soil types at the project site. A map unit is identified and named according to the taxonomic classification of the dominant soils. A description of the map units at the project site is provided in Table 3.6-1.

**DISCUSSION**

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

**Less-than-Significant Impact.** The primary effect from a moderate to major earthquake is fault ground rupture, also called surface faulting. Because no active faults are mapped across the project site by the California Geological Survey or USGS, and the project site is not located within an Alquist-Priolo Earthquake Fault Zone, fault ground rupture is unlikely.

The proposed project would not result in the construction of new structures or other facilities potentially susceptible to seepage or seismic events. The proposed project would involve regrading and armoring the east side slope of the State Cut channel with rock. The waterside slope of the levee would be revegetated to improve its resistance to erosion. Relative to existing conditions, this work would improve the static and seismic stability of the State Cut channel and increase the overall reliability of the flood protection system in adjacent areas. Therefore, this impact would be less than significant.

ii) Strong seismic ground shaking?

**Less-than-Significant Impact.** As described previously, no active faults are mapped across the project site by the California Geological Survey or USGS, and the site is not located within an Alquist-Priolo Earthquake Fault Zone. However, the project site could be subject to ground shaking from earthquakes in faults at Oroville and within the Coast Ranges. The nearest known active (Holocene or Historic) fault trace to the project site is the Dunnigan Hills fault, near the city of Woodland approximately 20 miles southwest of the project site (Jennings 1994). The Cleveland Hills fault, near Lake Oroville, is mapped approximately 40 miles north of the project site. The 1975 Oroville earthquake (5.7 Richter magnitude) caused surface rupture on portions of the Cleveland Hills fault.
### Table 3.6-1

Soil Mapping Unit Descriptions for Soil Types at the Project Site

<table>
<thead>
<tr>
<th>Map Unit</th>
<th>Symbol</th>
<th>Map Unit Name</th>
<th>Typical Profile</th>
<th>Shrink-Swell Potential</th>
<th>Erosion Factor</th>
<th>Drainage</th>
<th>Wind Erodibility Group</th>
<th>Land Capability Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuolumne sand and loam</td>
<td>9 to 18 inches: Fine sandy loam, 0 to 1 percent slopes, occasionally flooded</td>
<td>Low</td>
<td>High</td>
<td>0.17</td>
<td>1</td>
<td>Nonirrigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 68 inches: Striated sand</td>
<td>0 to 6 inches: Loamy sand</td>
<td>6 to 58 inches: Stratified sandy loam to sandy loam</td>
<td>9 to 18 inches: Fine sandy loam, 0 to 1 percent slopes,</td>
<td>Low</td>
<td>High</td>
<td>0.17</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0.32</td>
<td>3</td>
<td>Conservation practices, or both</td>
<td>2w: Soils have severe limitations that reduce the choice of plants or that reduce the yield of crops grown in cultivation and that require special conservation practices, or both.</td>
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Proposed improvements that would be implemented along the State Cut channel and the levee slope would increase the stability of the overflow channel and the waterside surface of the levee at the project site. No new structures or other facilities are proposed at the site that could create hazardous conditions during a seismic event. Therefore, this impact would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Geotechnical data prepared for the FRLRP is summarized in the *Phase 4 Feather River Levee Repair Project Geotechnical Data Report and Addendum 1* (TRLIA 2007b), which includes the geologic profile for the levee reach between Levee Stations 695+00 and 725+00 along the project site. (Refer to Exhibit 2-3 in Chapter 2, “Project Description,” which shows the levee stations near the project site.) Boring data from the area along the bank of the State Cut show that the existing levee in this levee reach is made of fine to medium sandy soils, primarily poorly graded sand, silty sand, and clayey sand. The levee is underlain by similar sandy soils extending to an elevation of approximately 44–46 feet msl. Below the upper foundation sand layer, there is a layer of silt that ranges in thickness from about 15 to 23 feet, with a base elevation at approximately 20–33 feet msl. Soils in both the levee and foundation are generally loose and cohesionless.

The area where the Feather River and Yuba River levees are located has relatively shallow groundwater conditions. The soils in the project vicinity, where saturated, may lose strength during and immediately after strong earthquake shaking (the phenomenon referred to as soil liquefaction). Liquefaction of loose foundation soils during a seismic event may cause cracking or deformation of the levee adjacent to the site and elsewhere in the project vicinity. Such a situation is possible, but the probability that strong ground motion would coincide with or immediately precede high river levels is very low. Because of this low probability, the current standards of design do not specify that earthquake loadings must be included in stability analyses performed for levees that do not retain a permanent pool (TRLIA 2007b:49). Therefore, if liquefaction effects were to occur at the project site during or after an event of strong earthquake shaking, the risk of loss, injury, or death would be very low, and the damage to the levee could be repaired before any future high-water events occurred. Therefore, this impact would be less than significant. See also the response to item ii) above.

iv) Landslides?

Less-than-Significant Impact. The project site is located in the valley area of Yuba County. The elevation in the valley increases from approximately 30 feet msl at the Feather River to approximately 250 feet msl on the east side of the valley at the base of the Sierra Nevada foothills. Slopes in the valley are generally slight.

The elevation at the bottom of the State Cut channel is approximately 45 feet msl. The east bank Feather River levee in the project vicinity has an approximate height of 18–25 feet above the waterside berm and approximately 18–20 feet above the landside ground elevation. The total height from the levee crown to the toe of the eastern bank of the State Cut varies from approximately 30 to 35 feet. A seismic event centered on the Dunnigan Hills or Cleveland Hills fault could cause sloughing of the eastern State Cut bank and displacement of the rock armor within the channel. However, embankment slopes and heights are not steep enough or high enough for a seismic event to result in a landslide that could potentially result in loss, injury, or death. Therefore, this impact would be less than significant.

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

Less than Significant with Mitigation Incorporated. Construction activities associated with the erosion site repairs would disturb earth, potentially resulting in accelerated erosion or an incidental release of sediment to adjacent lands. Ground-disturbing activities would include establishing staging areas adjacent to the project site, regrading the eastern slope of the existing State Cut channel below the waterside toe of the levee, preparing the waterside levee slope for seeding and revegetation, and regrading the existing maintenance road along the waterside toe of the levee. Ground disturbances would be temporary and would occur only during project construction.
Table VI-1 includes data on the susceptibility of soils at the project site to sheet and rill erosion by water (erosion factor K). As shown in Table 3.6-1, erosion factor Kw indicates the erodibility of the whole soil. For soil interpretations, the factors are grouped into 14 classes. The classes are identified by a representative class value, with class .02 being the least susceptible to sheet and rill erosion by water and class .64 being the most susceptible. The K factors for soils represented at the project site are estimated to be .32 (Columbia fine sandy loam) and .17 (Tujunga sand) (NRCS 2008). Based on NRCS soils data, the soils at the project site may be highly susceptible to wind erosion. It is important to note that work on the banks, levees, and channels of floodways along any stream is prohibited during the flood season (California Water Code, Section 112). Work on the overflow channel and stabilization of exposed soils on the levee slope could not begin before April 15 and would be completed by the end of summer (i.e., before the start to flood season on November 1). Disturbance of soils during project construction could, however, increase the potential for wind and water erosion at areas near the project site. Any soil entering adjacent waterways could adversely affect water quality. Therefore, this impact would be potentially significant. Mitigation Measure Haz-1 in Section 3.7, “Hazards and Hazardous Materials,” requires preparation of a storm water pollution prevention plan (SWPPP) and submittal of a notice of intent to the Central Valley RWQCB for stormwater discharges associated with general construction activity. The SWPPP shall include detailed measures to prevent and control soil erosion and waste discharges from the construction areas. Implementation of Mitigation Measure Haz-1 would reduce this impact to a less-than-significant level.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact. As described previously, improvements that are proposed at the site would increase the stability of the State Cut channel and the levee slope at the project site. See also responses to items i), ii), iii), and iv) above. This impact would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

No Impact. The project site is in an area with soils exhibiting low shrink-swell potential, and no structures for human occupancy would be constructed as part of the proposed project. Because the soils at the site have low shrink-swell potential and no new risks to life or property would be created, the project would have no effect related to expansive or unstable soils. No impact would occur.

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. No septic systems or wastewater disposal systems would be constructed as part of the proposed project. Therefore, no impact would occur.
### 3.7 HAZARDS AND HAZARDOUS MATERIALS

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<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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<tr>
<td>VII. Hazards and Hazardous Materials. Would the project:</td>
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<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
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<td>b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?</td>
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<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
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<td>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?</td>
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<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
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<td>f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
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<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
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<td>h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
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This section provides a description of potential hazards and hazardous materials that may be encountered or created as a result of project implementation, and mitigation measures as needed to reduce any significant hazardous materials–related effects to a less-than-significant level.

### ENVIRONMENTAL SETTING

In January 2007, a Phase I environmental site assessment was performed for FRLRP Segments 1 and 3 (TRLIA 2007c). Erosion Site 2 is just outside the area identified for the original Segment 3 levee repair work. The
environmental site assessment identified several environmental concerns: minor leaks and spills from diesel fuel tanks, agricultural burning, debris dumping, pesticide application, pesticide contamination of an open trench, underground storage tanks, stained soil, and chemical storage. None of these areas of concern are located within or adjacent to the project site.

Small placer and dredge gold mines were located in the Sierra Nevada upstream of the project site along the Feather and Yuba Rivers in the mid-1800s; large-scale hydraulic placer mines and hard rock mines were also operated upstream of the project site. The closest major mine to the project site, according to the environmental site assessment, is the former Yuba Goldfields, a large placer mine located on the Yuba River about 8 miles northeast of the project site. Many of these mining operations included the use of mercury. Tailings containing residual mercury would have washed downstream into the Feather River during the mining era and been deposited in varying degrees in the river floodplain soils. Phase I and Phase II environmental site assessments prepared in the project vicinity found no evidence of a discrete ongoing source of mercury contamination in the area, localized mercury deposits, or adverse conditions that may have been related to mercury.

**DISCUSSION**

**a) 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.** Construction of the proposed project would involve the routine transport and handling of hazardous substances such as diesel fuels and lubricants. Handling and transport of these materials could result in the exposure of workers to hazardous materials. Therefore, this impact would be significant. However, implementation of Mitigation Measure Haz-1 would reduce this impact to a less-than-significant level.

In addition, various state agencies regulate hazardous materials, including the California Environmental Protection Agency and the Governor’s Office of Emergency Services. The California Highway Patrol and California Department of Transportation (Caltrans) enforce regulations for hazardous materials transport. Within the California Environmental Protection Agency, the California Department of Toxic Substances Control has primary regulatory authority for enforcing hazardous materials regulations. State hazardous waste regulations are contained primarily in Title 22 of the California Code of Regulations. The California Occupational Health and Safety Administration has developed rules and regulations regarding worker safety around hazardous and toxic substances. Compliance with these regulations would further minimize the potential for adverse impacts to occur related to the routine transport, use, and disposal of hazardous materials. Such compliance combined with implementation of Mitigation Measure Haz-1 would reduce this impact to a less-than-significant level.

**Mitigation Measure Haz-1: Prepare a Storm Water Pollution Prevention Plan and Comply with Other Applicable Regulations.** Before the start of any project construction work, site grading, or excavation, TRLIA or its primary construction contractor shall prepare a SWPPP detailing measures to control soil erosion and waste discharges from construction areas and shall submit a notice of intent to the Central Valley RWQCB for stormwater discharges associated with general construction activity. TRLIA shall require all contractors conducting construction-related work to implement the SWPPP to control soil erosion and waste discharges of other construction-related contaminants. The general contractor(s) and subcontractor(s) conducting the work shall be responsible for constructing or implementing, regularly inspecting, and maintaining the measures in good working order.

The SWPPP shall identify the grading and erosion control best management practices (BMPs) and specifications that are necessary to avoid and minimize water quality impacts to the extent practicable. Standard erosion control measures (e.g., management, structural, and vegetative controls) shall be implemented for all construction activities that expose soil. Grading operations shall be conducted to eliminate direct routes for conveying
potentially contaminated runoff to the Feather River. Erosion control barriers such as silt fences and mulching material shall be installed, and disturbed areas shall be reseeded with grass or other plants where necessary.

The SWPPP shall contain specific measures for stabilizing soils at the construction site before the onset of the winter rainfall season. These standard erosion control measures shall be designed to reduce the potential for soil erosion and sedimentation of drainage channels.

The following specific BMPs are recommended for implementation:

- Conduct all work according to site-specific construction plans that identify areas for clearing, grading, and revegetation so that ground disturbance is minimized.

- Avoid existing vegetation wherever possible and identify vegetation to be retained for habitat maintenance (i.e., as identified through preconstruction biological surveys), cover cleared areas with mulches, install silt fences if needed to control erosion and trap sediment, and reseed cleared areas with native vegetation.

- Stabilize disturbed soils at all construction site and staging areas before the onset of the winter rainfall season.

- Stabilize and protect stockpiles from exposure to erosion and flooding.

The SWPPP also shall specify appropriate hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants. Specific measures applicable to the project include but are not limited to the following:

- Develop and implement strict on-site handling rules to keep construction and maintenance materials out of waterways.

- Conduct refueling and servicing of equipment and vehicles on the land side of the Feather River levee whenever possible. Only conduct refueling and servicing on the water side of the levee under extreme circumstances (e.g., vehicle or equipment breaks down and is not mobile). Leave absorbent material or drip pans underneath to contain spilled fuel during refueling and servicing. Collect any fluid drained from machinery during servicing in leakproof containers and deliver to an appropriate disposal or recycling facility.

- Prevent oil or other petroleum products, or any other substances that could be hazardous to aquatic life, from contaminating the soil or entering watercourses.

- Maintain spill cleanup equipment in proper working condition. Clean up all spills immediately according to the spill prevention and response plan, and immediately notify DFG and the Central Valley RWQCB of any spills and cleanup procedures.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than Significant with Mitigation Incorporated. During construction of the proposed project, hazardous materials such as fuels and lubricants would be used to operate construction equipment such as scrapers, excavators, compactors, haul trucks, and loaders. Fuels and lubricants have the potential to be released into the environment at the project site, causing environmental and/or human exposure to these hazards. This impact would be potentially significant. Implementation of Mitigation Measure Haz-1, described above, and Mitigation Measure Haz-2 would reduce this impact to a less-than-significant level.
Mitigation Measure Haz-2: Ensure that All Employees Handling Hazardous Materials are Trained in the Safe Handling and Storage of Hazardous Materials. Before the commencement of project construction, TRLIA or its contractor shall:

► ensure that any employee handling hazardous materials is trained in the safe handling and storage of hazardous materials and trained to follow all applicable regulations with regard to such hazardous materials, and

► identify staging areas where hazardous materials will be stored during construction in accordance with applicable state and federal regulations.

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

Less-than-Significant Impact. The project site is located one-quarter mile from Cedar Lane Elementary School, located at 841 Cedar Lane. Mitigation Measures Haz-1 and Haz-2 would ensure the safe handling and use of hazardous materials during project construction. Therefore, implementation of the proposed project, including construction activities, would not pose a hazard to students attending Cedar Lane Elementary School. This impact would be less than significant.

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

No Impact. No hazards were identified at the project site in the site assessment completed for the FRLRP. In addition, the project site is not identified by EPA as a hazardous materials site (EPA 2008). Thus, the proposed project would not create a significant hazard to the public or to the environment as a result of existing hazardous material contamination. No impact would occur.

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

No Impact. The project site is not located within an airport land use plan (Yuba County 2008a) or within 2 miles of a public airport or public use airport. The nearest airport is the Yuba County Airport, located approximately 3 miles from the project site. No impact would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. No private airstrips occur within or near the project site. The closest air transport facility is the Yuba County Airport, located approximately 3 miles from the project site. No impact would occur.

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

No Impact. The proposed project would not impair implementation of or physically interfere with the adopted Yuba County Emergency Operations Plan or any emergency evacuation plans. Project activities would not intersect any identified emergency response or emergency evacuation route. Therefore, no impact would occur.
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less-than-Significant Impact. Land uses in the project vicinity consist of agriculture, residences, limited commercial land uses, ruderal vegetation, limited riparian vegetation, and the Yuba and Feather Rivers. The project site is not in a high wildfire risk area. The proposed repair and maintenance activities are not at high risk of igniting a wildfire, would not increase the potential risk of a wildfire occurring, and would not place structures susceptible to wildfire in a fire risk area. Therefore, this impact would be less than significant.
### 3.8 HYDROLOGY AND WATER QUALITY

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<td>VIII. Hydrology and Water Quality. Would the project:</td>
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<td>a) Violate any water quality standards or waste discharge requirements?</td>
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<td>b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?</td>
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<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?</td>
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<tr>
<td>d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?</td>
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<td>e) 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?</td>
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<td>f) Otherwise substantially degrade water quality?</td>
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<td>g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
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<td>h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</td>
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<td>i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?</td>
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<td>j) Result in inundation by seiche, tsunami, or mudflow?</td>
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This section provides information on water quality and hydrology conditions on the project site, and mitigation as needed to reduce potentially significant project effects on hydrology and water quality to a less-than-significant level.
ENVIRONMENTAL SETTING

HYDROLOGY

The project site is located near the confluence of the Feather and Yuba Rivers in a portion of an overflow channel at the river confluence known as the State Cut. Lake Oroville and New Bullards Bar Reservoir, as well as an extensive system of levees, provide flood protection along the Feather and Yuba Rivers.

Yuba River

The Yuba River drains the western slope of the Sierra Nevada and flows generally southwesterly to its confluence with the Feather River at Marysville (Exhibit 2-1). The main stem of the Yuba River forms at the juncture of the Middle and North Yuba Rivers just south of New Bullards Bar Reservoir and is joined by the South Yuba River just a few miles downstream near Bridgeport in Nevada County, approximately 1 mile east of Yuba County. The North Yuba River above New Bullards Bar Dam drains approximately 489 square miles. Large portions of the Yuba River drainage (Middle and South Forks) are largely unregulated with respect to flood flows. The main stem of the Yuba River in the Marysville vicinity drains approximately 1,390 square miles.

Feather River

The Feather River drains an area of approximately 5,500 square miles at its confluence with the Bear River and 3,611 square miles above Oroville Dam in Butte and Plumas Counties. Between Oroville and Marysville, the Feather River drains an area of 369 square miles, flowing southerly through relatively flat or gently rolling terrain for 39 miles (Exhibit 2-1).

Feather and Yuba River Flows

The Feather and Yuba Rivers have similar seasonal distributions of flows. The mean monthly flows are greatest in winter and early spring (January–March) and are at a minimum in late summer and early fall (July–October). The effects of reservoir storage capacity on flows are noticeable in extreme water years. The Feather River has nearly uniform flows in different year types because of the very large storage capacity of Lake Oroville; however, Yuba River flows are greatly reduced in very dry years because of the more limited carryover storage capacity of Bullards Bar Reservoir. During wet periods, the maximum monthly flow in the Feather River is often less than the maximum flow on the Yuba River, even though the Feather River watershed is more than three times the size of the Yuba River watershed, because the large storage volume of Lake Oroville can more effectively attenuate high flows.

Groundwater Conditions

The principal aquifers in the valley area of Yuba County consist of as much as 100 feet of Pleistocene sands and gravels overlain by as much as 125 feet of recent alluvial fan, floodplain, and stream channel deposits. The pre-Eocene formations in the valley area of Yuba County have relatively low permeability and are moderate water producers (Yuba County 1994a). Natural groundwater levels can vary substantially from year to year and seasonally. Groundwater levels are generally higher in winter and spring. The valley areas along the Feather River generally serve as groundwater recharge areas.

The project site is in the southern portion of the Sacramento River hydrologic region and is located within the South Yuba subbasin (DWR 2003). In recent years, under relatively normal conditions, groundwater elevations in the South Yuba subbasin have ranged from about 150 feet in the northwest region of the basin, to about 30 feet in the southwest corner near the confluence of the Feather and Bear Rivers (DWR 2003).

Lands around the project site are expected to have relatively shallow groundwater conditions (groundwater table generally less than 20 feet deep), as the nearby perennial flows of the Feather and Yuba Rivers provide ready
recharge. Depending on local variations in the horizontal hydraulic continuity of the soil, groundwater levels near the river’s edge and along the existing levees may be similar to river surface flow elevations, with a slight hydraulic gradient downward away from the rivers (and other sources of recharge, such as agricultural drainage). However, groundwater levels also vary seasonally with precipitation and runoff in this area and may rise closer to the ground surface during wet years. In addition, groundwater levels are influenced locally by pumping as the groundwater is withdrawn regularly during spring and summer for irrigation, and throughout the year for general use by most of the local growers (YCWA 2003).

In exploration borings performed in recent years, groundwater has been found to be 6–16 feet below the natural ground surface along the Feather River levee. In general, groundwater elevations appeared to drop slightly from north to south (YCWA 2003).

**WATER QUALITY**

**Surface Water Quality**

Under Section 303(d) of the federal CWA, states are required to develop lists of surface water bodies that are not attaining water quality objectives (i.e., found to be polluted). Section 303(d) requires that the state develop a total maximum daily load (TMDL), which is the amount of loading that the water body can receive and still be in compliance with water quality objectives, for each of the listed pollutants causing the impairment. The list is known as the 303(d) list of impaired waters.

The Feather River is included on the 303(d) list of impaired waters for diazinon, Group A pesticides, mercury, and unknown toxicity. Agriculture and urban runoff are the main sources for diazinon and Group A pesticides, resource extraction is the main source for mercury, and the source is unknown for unknown toxicity. The Central Valley RWQCB has TMDL priorities of high, medium, and low for the respective stressors (SWRCB 2002).

Feather River water is generally low in total dissolved solids, as indicated by measurements of electrical conductivity, total hardness, and specific cations and anions. The water has neutral pH, moderate alkalinity, and adequate dissolved oxygen levels for aquatic organisms. The water from the Feather River is also generally low in nutrients (nitrogen and phosphorus) that can cause growth of nuisance algae and aquatic vascular plants. Trace metal content is also low. Although mercury is routinely detected in the Feather River, the concentrations have not exceeded ambient California Toxics Rule criteria. Pesticides have been detected in the Feather River, although, with the exception of the drinking-water standard for carbofuran, no applicable regulatory criteria have been established for the pesticides that have been detected. The average concentration of diazinon in the Feather River exceeds the DFG guidance level of 50 nanograms per liter (DFG 2000). Pesticide levels in the Feather River are presumably related to the influence of the extensive agricultural and urban activities (Oroville, Marysville, and Yuba City) occurring in the surrounding watershed.

National Water Quality Assessment Program data indicate that concentrations of trace metals in river sediments in the project region are generally low relative to San Francisco Bay RWQCB criteria for reuse in wetlands. These criteria are often used outside the San Francisco Bay area as an indicator of the potential for sediments to cause or not cause water quality concerns. The concentrations of chromium and nickel in the Feather River, copper in the Yuba River, and mercury in the Bear River were slightly higher than the San Francisco Bay RWQCB criteria for wetland cover use. Concentrations of arsenic, chromium, copper, mercury, and zinc exceeded the most recent guidance criteria for general toxic effect thresholds (MacDonald and Berger 2000).

**Groundwater Quality**

Groundwater provides most water supplies for the Marysville, Linda, and Olivehurst areas and for rural properties in the project vicinity. In general, the mineral content of the groundwater underlying south Yuba County is suitable for domestic and agricultural uses. The Olivehurst and Linda wells typically draw water from 300–600
feet below ground surface (Foothill Associates 1999). Water quality samples routinely collected from these wells indicate that all regulated inorganic and organic pollutants are below the applicable drinking-water standards. However, groundwater in the area contains relatively high levels of iron, manganese, and gases (i.e., methane and hydrogen sulfide), which occasionally cause taste and odor problems but are not a threat to human health.

**DISCUSSION**

a) **Violate any water quality standards or waste discharge requirements?**

Less than Significant with Mitigation Incorporated. Project implementation would include ground-disturbing activities along a waterside portion of the State Cut, which could cause Feather River water to become contaminated by soil or construction substances. The proposed activities include the construction of a rock slope protection layer and toe trench, revegetation of the levee slope, and regrading and resurfacing of an existing maintenance road. Excavated trench and bank materials would be stored within the 50-foot temporary construction easement adjacent to the evacuation site. Salvaged concrete rubble and native material from on-site trench excavation would be used to fill the toe trench.

These activities have the potential to temporarily impair water quality if disturbed and eroded soil, petroleum products, or construction-related wastes are discharged into receiving waters or onto the ground where they can be carried into receiving waters. Accidental spills of construction-related substances such as oils and fuels can contaminate both surface water and groundwater. The extent of potential impacts on water quality would depend on the following factors: tendency for erosion of soil types encountered, types of construction practices, extent of the disturbed area, duration of construction activities, timing of particular construction activities relative to the rainy season, proximity to receiving water bodies, and sensitivity of those water bodies to construction-related contaminants.

Because there is a potential for release of soil or construction-related materials into the Feather River that could adversely affect river water quality, this impact would be potentially significant. Implementation of Mitigation Measure Haz-1 described in Section 3.7, “Hazards and Hazardous Materials,” which would require the preparation of a SWPPP and implementation of standard BMPs to minimize ground and vegetation disturbance and use and store hazardous materials in designated staging areas, would reduce this impact to a less-than-significant level.

b) **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

Less-than-Significant Impact. The proposed project would not require the use of groundwater. An existing maintenance road would be regraded and resurfaced with an aggregate base; however, this small change in the amount of impervious surface area would not be expected to substantially interfere with groundwater recharge. Project features would not interfere with the movement of groundwater from the Feather River to lands to the east. Therefore, groundwater supplies and groundwater recharge capability would not be substantially affected. This impact would be less than significant.

c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?**

Less-than-Significant Impact. As part of the proposed project, an existing maintenance road would be regraded and surfaced with an aggregate base, which would result in a small increase in the amount of impervious surface
area at the project site. Impervious surfaces can alter drainage patterns or cause incremental increases in the rate and amount of surface water runoff. However, standard BMPs would be implemented to reduce the potential for erosion and sedimentation. The minor incremental changes in runoff would not be expected to substantially alter on- or off-site erosion or siltation.

The proposed project would retain the existing topography in the State Cut and along the Feather River levee. Therefore, it would not change the course of the Feather River.

The proposed project would result in a benefit by reducing the potential for future erosion and scour at the project site, about which USACE has expressed concern. Other concerns noted by USACE include the lack of vegetation on the levee slope; the potential for the fine sandy soil in the levee foundation to erode during a 100-year or greater flood event; and the potential for the bed of the State Cut to scour and move laterally, compromising the foundation of the levee. Construction of the proposed project would serve to alleviate these concerns by repairing the project site, which would protect the integrity of the levee system and provide increased flood protection in the project vicinity. For CEQA purposes this impact would be less than significant, and the proposed project would result in a beneficial effect.

d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?**

**Less-than-Significant Impact.** The proposed project would retain the existing topography in the State Cut and along the Feather River levee. Therefore, it would not change the course of the Feather River. See item c) above. The proposed project would reduce the potential for future erosion and scour at the project site, which would protect the integrity of the levee system and provide increased flood protection in the project vicinity. For CEQA purposes this impact would be less than significant, and the proposed project would result in a beneficial effect.

e) **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?**

**Less-than-Significant Impact.** See item c) above. Because there would be only a minor incremental change in the amount of runoff from the project site as a result of the regrading and resurfacing of the existing maintenance road, the proposed project would not exceed the capacity of any existing or planned stormwater drainage systems. Therefore, this impact would be less than significant.

f) **Otherwise substantially degrade water quality?**

**Less-than-Significant Impact.** As discussed in Mitigation Measure Haz-1 in Section 3.7, “Hazards and Hazardous Materials,” a SWPPP would be prepared and standard BMPs would be implemented to protect water quality in the project vicinity. Therefore, the proposed project is not expected to substantially degrade water quality. This impact would be less than significant.

g) **Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

**No Impact.** The proposed project would not include construction of any housing. Therefore, no impact would occur.
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

**Less-than-Significant Impact.** The project site is located within the Feather River floodway. The proposed project would include the construction of a rock slope protection layer and toe trench, revegetation of the levee slope, and regrading and resurfacing of an existing maintenance road. These activities would not impede or redirect flood flows. The proposed project would reduce the potential for future erosion and scour at the project site. For CEQA purposes this impact would be less than significant, and the increased flood protection associated with the proposed project would be a beneficial effect. See items c) and d) above for additional information.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

**Beneficial.** The proposed project would improve flood protection in the project area, thereby reducing the risk of loss, injury, or death involving flooding. This impact would be beneficial. See items c) and d) above for additional information.

j) Result in inundation by seiche, tsunami, or mudflow?

**No Impact.** The project site is geographically removed from areas where the potential for seiche, tsunami, or mudflow exists (e.g., near a lake, the ocean, or hillsides). Therefore, no impact would occur.
3.9 LAND USE AND PLANNING

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX. Land Use and Planning. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

This section describes existing land uses at the project site and evaluates the effects of the project related to land use and planning.

ENVIRONMENTAL SETTING

The project site is located along the waterside slope of the Feather River east levee and Yuba River south levee near the confluence of the Yuba and Feather Rivers. It includes the State Cut channel, the existing maintenance road, and the waterside levee slope. The main channels of the Feather and Yuba Rivers are approximately one-half mile west and northwest of the project site. Portions of the lands between the river channels and the levee extending north to the SR 70 overpass and south to Shanghai Bend are actively maintained orchards. This area is otherwise undeveloped open space. A portion of an orchard between the levee and the State Cut channel extends slightly into the south end of the project site. The closest residences are located on the land side of the levee (i.e., on the opposite side of the levee from the project site) in the community of West Linda. The project site is within unincorporated Yuba County. The County General Plan is the comprehensive plan for growth and development in the unincorporated areas of the county. The County General Plan includes goals, policies, and objectives that guide land use decisions in the county (Yuba County 1996:5-6, 5-83–5-84, 7-44). Several goals and objectives may be relevant to the project. The Land Use Element includes a goal and related objective statement addressing flood protection:

► **Land Use Goal 14:** Secure adequate flood protection for urban and other developing areas.

► **Land Use Objective 62:** Routine maintenance and improvement of Feather River and Yuba River flood protection levees.

The Open Space and Conservation Element includes goals and policies addressing flooding and other hazards, including this policy relating to Yuba County’s coordination with other agencies on important flood control issues:

► **Open Space and Conservation Policy 150:** The County shall work closely with USACE, local reclamation districts and levee commissions to assure that maximum protection from potential levee breaks or overtopping during periods of high water is provided to the Linda and Olivehurst region.
The County General Plan’s land use designation for the project site and adjacent rural lands east of the Feather River and south of the Yuba River is Valley Agriculture (Yuba County 2004). The Valley Agriculture designation is used to identify areas on the valley floor outside of community boundaries that are suitable for commercial agriculture and where it is desirable to retain agriculture as the primary land use; to protect the agricultural community from encroachment of unrelated agricultural uses that would injure the physical and economic well-being of the agricultural community; and to encourage the preservation of productive and potentially productive agricultural land, which is identified as state-designated Important Farmlands and/or lands having Class I and II soils as determined by the Natural Resources Conservation Service.

The project site is within an extensive area that is zoned Exclusive Agricultural (AE-40) (Yuba County 2005). The purpose of the Exclusive Agricultural zone is to eliminate the encroachment of land uses that are incompatible with the agricultural uses of the land and to prevent the unnecessary conversion of agricultural land to urban uses. In addition to agricultural uses such as crop cultivation and livestock raising, this zoning designation allows for low-density residential use, accessory buildings for residences, game preserves, kennels, and farm produce stands, among other uses. Many other uses may be allowed with a conditional use permit.

**DISCUSSION**

a) **Physically divide an established community?**

No Impact. The project would not physically divide an established community. The project site is located along the waterside of the Feather River east levee in an area that is undeveloped. The proposed project would involve improvements that are consistent with existing flood control uses at the site. Therefore, no impact would occur.

b) **Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

No Impact. The County General Plan provides comprehensive guidance for growth and development in the unincorporated areas of the county, including the area where the project site is located. Work associated with the Erosion Site 2 repairs would be consistent with goals, objectives, and policies contained in the County General Plan, including those that address flood protection for nearby communities and maintenance and improvements to the Feather River and Yuba River levees (Land Use Goal 14 and Objective 62). Open Space and Conservation Policy 150 directs the County to work closely with USACE and other appropriate organizations and agencies to assure the reliability of the levee system in the region. TRLIA continues to coordinate with USACE, other federal and state agencies, and RD 784 regarding implementation of flood control projects in the RD 784 area.

It is important to note that inconsistencies with land use designations and zoning are considered land use regulation issues rather than physical environmental consequences of a project. Any identified inconsistencies would not be treated as significant effects under CEQA unless they also contribute to a significant adverse physical/environmental effect. Discussions of environmental impacts are limited to the direct and indirect physical changes in the environment that may be caused by the project (Section 15064[d] of the State CEQA Guidelines). Potential environmental effects that could be caused by the project are evaluated within the respective environmental topic areas within this IS/MND.

No impact would occur.
c) **Conflict with any applicable habitat conservation plan or natural community conservation plan?**

**No Impact.** No habitat conservation or natural community conservation plans are in effect that would apply to the project site. Therefore, no impact would occur.
3.10 MINERAL RESOURCES

ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>X.</th>
<th>Mineral Resources. Would the project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>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?</td>
</tr>
<tr>
<td></td>
<td>Potentially Significant Impact</td>
</tr>
<tr>
<td></td>
<td>□</td>
</tr>
<tr>
<td>b)</td>
<td>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?</td>
</tr>
<tr>
<td></td>
<td>Potentially Significant Impact</td>
</tr>
<tr>
<td></td>
<td>□</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL SETTING

The California Surface Mining and Reclamation Act (SMARA) was enacted by the California Legislature to regulate activities related to mineral resource extraction. The act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of public health and safety hazards from the effects of mining activities.

The California Geological Survey (formerly California Division of Mines and Geology) classifies the regional significance of mineral resources in accordance with SMARA. Mineral Resource Zones (MRZs) have been designated to indicate the significance of mineral deposits. A classification of MRZ-1 signifies an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence; MRZ-2 signifies an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists; and MRZ-3 signifies an area where the significance of mineral deposits cannot be evaluated from existing data. These designations are intended to preserve known mineral resources for future mining, and to prevent encroachment of urban development that would compromise the resource’s value.

Mineral resources mined or produced within Yuba County include sand and gravel, clay, stone products, silica, silver, and gold. Known mineral resource zones in Yuba County consist primarily of an area along the Yuba River, extending from Marysville on the west to approximately Smartville on the east. The project site is located outside of the designated MRZ-2 zone. Several mines are located in Yuba County that extract gold (one mine also extracts silver). Most gold mining in Yuba County is placer mining at the Yuba Goldfields in the Hammonton District, approximately 8 miles from the project site (Yuba County 2008a). No gold or silver producing mines are located within or near the project site.

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?

Less-than-Significant Impact. The project site is located outside of the County’s designated MRZ-2 zone. Thus, implementation of the proposed project is not likely to result in the loss of availability of a known mineral resource that would be of future value to the region and state residents. This impact would be less than significant.
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?

**Less-than-Significant Impact.** The nearest mining activities to the project site are Hallwood Pit and Garcia Pit and Mill, both of which produce sand and gravel and are located approximately 1.5 miles northeast of the project site, within the designated MRZ-2 zone. Construction of the proposed project would not impede or interfere with the establishment or continuation of existing mineral extraction operations. This impact would be less than significant.
### 3.11 NOISE

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XI. Noise. Would the project result in:</td>
<td></td>
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</tr>
<tr>
<td>a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

This section includes a description of ambient-noise conditions, a summary of applicable regulations, and an analysis of potential short-term construction and long-term operational-source noise impacts of the proposed project. Mitigation measures are recommended as necessary to reduce significant noise impacts to a less-than-significant level.

**ENVIRONMENTAL SETTING**

The project site is located in Yuba County, California, south of the city of Marysville and west of SR 70. Existing noise-sensitive land uses in the vicinity consist of residences off of Riverside Drive, of which the closest is within approximately 350 feet to the east of areas proposed for earthmoving activities. (Noise-sensitive land uses generally include those uses where exposure would result in adverse effects [e.g., sleep disturbance, annoyance], as well as uses where quiet is an essential element of their intended purpose. Residences are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other sensitive land uses include hospitals, convalescent facilities, parks, hotels, churches, libraries, and other uses where low interior noise levels are essential.) Cedar Lane Elementary School is located approximately one-quarter mile east of the project site at 841 Cedar Lane. It should be noted that the existing Feather River levee is located between the area proposed for earthmoving activities and sensitive receptors.

The existing noise environment within the project vicinity is influenced primarily by surface-transportation noise emanating from vehicular traffic on nearby roadways (e.g., SR 70, Riverside Drive), the Union Pacific Railroad,
and routine agricultural activities (e.g., use of heavy-duty equipment). Intermittent noise from outdoor activities at the surrounding residences (e.g., people talking, operation of landscaping equipment, car doors slamming, and dogs barking), though minor, also influences the existing noise environment.

As stated above, one of the dominant noise sources in the project vicinity is vehicular traffic on nearby roadways. Traffic on SR 70 contributes the highest background noise levels at the project site and in the vicinity. Existing roadway traffic noise levels for SR 70 were presented in the background report for the County General Plan’s Noise Element (Yuba County 2008b). Modeling was conducted for the report using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108).

Table 3.11-1 presents the modeled community noise equivalent levels (CNELs) at 50 feet from the centerline of the near travel lane and the distance from the roadway centerline to the 60- and 65-dBA (A-weighted decibels) CNEL contours for existing average daily traffic (ADT) volumes. Based on the background report, existing traffic on SR 70 would result in noise levels between 65 and 68 dBA CNEL at approximately 1,600 feet, which is the distance to the residence closest to project site from SR 70.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Average Daily Traffic</th>
<th>60-dBA CNEL Contour (feet)</th>
<th>65-dBA CNEL Contour (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Route 70: Erie Road to First Street</td>
<td>62,918</td>
<td>6,814</td>
<td>2,155</td>
</tr>
</tbody>
</table>

Table 3.11-1

Modeled Traffic CNEL Noise Contours at 50 Feet from the Centerline

Noise from railroad operations also affects the project site and the nearby sensitive receptors. The background report presents the modeled CNEL at 100 feet from the railroad tracks and the distance from the tracks to the 55-dBA CNEL contour for existing rail usage. Based on the background report (Yuba County 2008b), existing levels of rail usage would result in noise levels between 60 and 61 dBA CNEL at approximately 1,400 feet, which is the distance to the residence closest to project site from the railroad tracks.

The County General Plan is currently being updated and is scheduled for public release sometime in 2009. Neither noise criteria in the updated Noise Element nor potential new noise policies that may be adopted by the County Board of Supervisors are expected to be substantially different from those currently in effect; therefore, they are unlikely to alter the outcome of this analysis. As a result, policies from the existing County General Plan are presented here and used in this analysis.

The current Noise Element of the County General Plan contains objectives for acceptable hourly noise exposure levels within a large number of different land use designations. The relevant recommended ambient allowable noise level objectives are listed in Table 3.11-2 below.

Yuba County has adopted noise regulations within the County noise ordinance; these are outlined in Chapter 8.20, “Noise Regulations.” The noise ordinance has a declaration of policies, definitions, criteria for sound-level measurements, an ambient base noise level, and the authority to enforce noise ordinance violations. Specifically, Policy 8.20.310, presented below, is relevant to this project:

8.20.310 Construction of Buildings and Projects. It shall be unlawful for any person within a residential zone, or within a radius of 500 feet there from, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless a permit has been duly
TABLE 3.11-2
Recommended Objectives for Ambient Allowable Noise Levels in Yuba County

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>7 a.m.–10 p.m.</th>
<th>10 p.m.–7 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-density residential</td>
<td>50 dBA</td>
<td>50 dBA</td>
</tr>
<tr>
<td>Multifamily residential</td>
<td>55 dBA</td>
<td>50 dBA</td>
</tr>
<tr>
<td>Schools</td>
<td>45 dBA</td>
<td>45 dBA</td>
</tr>
<tr>
<td>Passive recreation</td>
<td>45 dBA</td>
<td>45 dBA</td>
</tr>
<tr>
<td>Active recreation</td>
<td>70 dBA</td>
<td>70 dBA</td>
</tr>
<tr>
<td>Agriculture</td>
<td>50 dBA</td>
<td>50 dBA</td>
</tr>
</tbody>
</table>

Note: dBA = A-weighted decibels
Source: Yuba County 1994b

DISCUSSION

The following analysis focuses exclusively on noise generated by project construction. Long-term operation of the proposed project would not include any new major stationary noise sources. Maintenance activities related to the levee waterside surface, waterside access road, and the State Cut would be the same as under existing conditions. Thus, long-term noise levels would be equal to existing conditions and are not considered further.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less-than-Significant Impact. For the proposed project, which would generate altered noise conditions only during project construction, Policy 8.20.310 from the Yuba County Noise Ordinance (described above) is the applicable local noise standard. The policy restricts construction noise only if it would occur in or within 500 feet of a residential zone between the hours of 10 p.m. of one day and 7 a.m. of the following day.

At this time, construction of the proposed project is expected to occur entirely within the time parameters identified in the Yuba County Noise Ordinance. Therefore, no conflict with the noise ordinance would occur. If construction between 10 p.m. and 7 a.m. is ultimately needed, TRLIA would not initiate this construction until receiving a permit from the director of the Planning and Building Services Department as identified in the noise ordinance. Therefore, implementation of the proposed project would be consistent with the Yuba County Noise Ordinance and would not exceed a local noise regulation. This impact would be less than significant.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 3.11-3 displays vibration levels for typical construction equipment.
As discussed in Section 3.3, “Air Quality,” on-site construction equipment is assumed to include two excavators, a dozer, a grader, a water truck, six dump trucks, a front-end loader, and an equipment maintenance truck. According to the Federal Transit Administration (FTA), vibration levels associated with the use of bulldozers range from approximately 0.003 to 0.089 inch per second (in/sec) peak particle velocity (PPV) and 58–87 in velocity level \( L_v \) in decibels (VdB referenced to 1 microinch per second and based on the root mean square velocity amplitude) at 25 feet, as shown in Table 3.11-4. Using FTA’s recommended procedure for applying a propagation adjustment to these reference levels, predicted worst-case vibration levels of approximately 0.002 in/sec PPV and 53 VdB at the nearest sensitive residence (350 feet) could occur from use of large bulldozers. These vibration levels would not exceed Caltrans’s recommended standard of 0.2 in/sec PPV (Caltrans 2002b:11) with respect to the prevention of structural damage for normal buildings or FTA’s maximum-acceptable vibration standard of 80 VdB (FTA 2006:Chapters 10 and 12) with respect to human annoyance for residential uses. Thus vibration and groundborne noise resulting from the proposed project would not expose persons to levels exceeding the recommendations of Caltrans and FTA. This impact would be less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

**Less-than-Significant Impact.** Long-term operation of the proposed project would not include any new major stationary noise sources. Maintenance activities related to the levee waterside surface, waterside access road, and the State Cut would be the same as under existing conditions. Thus, long-term noise levels would be equal to noise levels under existing conditions. This impact would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

**Less than Significant with Mitigation Incorporated.** Construction activities at the project site would include site preparation (e.g., excavation, grading, and clearing), materials transport, installation of erosion prevention features, and other miscellaneous activities. On-site construction equipment is assumed to include two excavators, a dozer, a grader, a water truck, six dump trucks, a front-end loader, and an equipment maintenance truck. Noise levels for individual equipment can range from 71 to 81 dBA at 50 feet, as indicated in Table 3.11-4.

### Table 3.11-3

**Vibration Levels for Typical Construction Equipment**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>PPV at 25 feet (in/sec)</th>
<th>Approximate ( L_v ) at 25 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Bulldozer</td>
<td>0.089</td>
<td>87</td>
</tr>
<tr>
<td>Caisson Drilling</td>
<td>0.089</td>
<td>87</td>
</tr>
<tr>
<td>Trucks</td>
<td>0.076</td>
<td>86</td>
</tr>
<tr>
<td>Jackhammer</td>
<td>0.035</td>
<td>79</td>
</tr>
<tr>
<td>Small Bulldozer</td>
<td>0.003</td>
<td>58</td>
</tr>
</tbody>
</table>

Notes:

- \( L_v \) = velocity level in decibels (i.e., VdB) referenced to 1 microinch/second and based on the root mean square velocity amplitude; PPV = peak particle velocity
- Source: FTA 2006: Chapters 10 and 12
Table 3.11-4
Modeled Noise Levels for Construction Equipment

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Noise Level (dBA)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At 50 feet</td>
<td>At 350 feet (nearest sensitive receptor)</td>
</tr>
<tr>
<td>Excavator</td>
<td>76.7</td>
<td>59.8</td>
</tr>
<tr>
<td>Dozer</td>
<td>77.7</td>
<td>60.8</td>
</tr>
<tr>
<td>Grader</td>
<td>81.0</td>
<td>64.1</td>
</tr>
<tr>
<td>Water Truck</td>
<td>72.5</td>
<td>55.6</td>
</tr>
<tr>
<td>Dump Trucks</td>
<td>72.5</td>
<td>55.6</td>
</tr>
<tr>
<td>Front-end Loader</td>
<td>75.1</td>
<td>58.2</td>
</tr>
<tr>
<td>Maintenance Truck</td>
<td>71.0</td>
<td>54.1</td>
</tr>
<tr>
<td><strong>Total Combined Noise Level</strong></td>
<td><strong>86.3</strong></td>
<td><strong>69.4</strong></td>
</tr>
</tbody>
</table>

Notes: dBA = A-weighted decibels

The simultaneous operation of on-site construction equipment, which would occur only in areas west of the existing Feather River levee where earthmoving activities are proposed, could result in combined intermittent noise levels up to 86.3 dBA at 50 feet from the project site. Based on these noise levels, a typical noise-attenuation rate of 6 dBA per doubling of distance, and assuming no noise reduction features, exterior noise levels at noise-sensitive receptors could exceed 50 dBA (the County’s hourly daytime standard) as far away as 3,000 feet from the project site. However, intervening buildings, topographic features, and other noise sources such as SR 70 and the nearby railroad line would reduce the distance from which noise from construction activities could be heard. In particular, construction activities occurring on the water side of the existing Feather River levee would be attenuated significantly by the levee. Although specific quantification of the noise reduction attributable to the levee is not feasible at this time, barriers of this size would typically reduce noise levels by 3–10 dBA.

Without accounting for levee attenuation, 3,000 feet is the maximum distance at which construction noise could exceed County standards. More specifically, and conservatively assuming a levee noise attenuation of -3 dBA, construction-generated noise levels could reach 66.4 dBA at the exterior of the closest residence within approximately 350 feet from the project site. Cedar Lane Elementary School is approximately one-quarter mile east of the project site. Construction-generated noise levels at the school’s exterior could reach 55.7 dBA. Windows and building facades typically reduce interior noise levels by 15 dBA (Lipscomb and Taylor 1978). Thus, inside the nearest homes and Cedar Lane Elementary School, noise levels from project construction would be less than 51.4 dBA and 40.7 dBA, respectively. This is an acceptable noise level for schools (see Table 3.11-2), but exceeds the County standard of 50 dBA for low-density residential.

Construction of the proposed project would also result in a short-term increase in traffic on the local area’s roadway network, but this increase would not be sufficient to significantly increase traffic noise levels. It is expected that up to 63 daily trips (consisting of 13 haul and 50 employee trips) would occur during the maximum construction activity periods. Construction-related traffic would be distributed over the roadway network identified in Section 3.15, “Transportation/Traffic.” Noticeable increases of 3 dBA (CNEL) do not typically occur without a substantial increase (i.e., doubling) in roadway traffic volumes (Caltrans 1998:N-96). Because the added traffic would be minimal, it would not increase the overall traffic noise levels by a substantial amount. See Section 3.15, “Transportation/Traffic,” for additional information.

Noise levels from on-site heavy-duty construction equipment could exceed noise standards set by the County for low-density residential land uses (see discussion above and Table 3.11-2). This is considered a substantial
temporary increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, this impact would be significant.

Implementation of Mitigation Measures Noise-1 through Noise-3 would reduce construction-generated noise levels by 5–25 dB at noise-sensitive receptors in the project vicinity. As a result, short-term construction-generated noise levels would be reduced below Yuba County standards. Thus, implementation of these mitigation measures would reduce this impact to a less-than-significant level.

Mitigation Measure Noise-1: Maintain and Equip Construction Equipment with Noise Control Devices. Construction equipment shall be properly maintained and equipped with all feasible noise control, such as mufflers, in accordance with manufacturers’ specifications.

Mitigation Measure Noise-2: Arrange Construction Equipment Operation and Travel to Minimize Disturbance to Occupied Residences. Construction equipment travel on the levee crown, the land side of the Feather River levee, landside staging/laydown areas, and public roadways shall be minimized to the extent possible and arranged to minimize disturbance to occupied residences (i.e., between 7 a.m. and 10 p.m.). To the extent feasible, the simultaneous operation of construction equipment in these areas shall be limited. Equipment not in use shall not be left idling for more than 5 minutes (note that this is consistent with FRAQMD guidelines as described in Mitigation Measure AQ-1). As much as possible, construction equipment operations shall occur on the water side of the Feather River levee to maximize the use of the levee as a noise barrier.

Mitigation Measure Noise-3: Notify Potentially Affected Receptors and Respond to Public Complaints. Before construction begins, TRLIA shall provide written notification to potentially affected receptors, identifying the type, duration, and frequency of construction operations. Notification materials shall also identify a mechanism for residents to register complaints with TRLIA and Yuba County (the agency responsible for enforcement of the Yuba County Noise Ordinance) if construction noise levels are overly intrusive or construction occurs outside the permitted hours. TRLIA and/or Yuba County shall then take corrective action.

e, f) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Less-than-Significant Impact. The project site is located approximately 1 mile east of Sutter County Airport and 1.5 miles north of Yuba County Airport. The project site is not within the 65-dBA CNEL noise contours (SACOG 2003) established by the Federal Interagency Committee on Aviation Noise for airport disturbance to humans (FICON 1992:ES-1, 2). The noise level resulting from Yuba County Airport would be approximately 45 dBA at that project site. The noise level resulting from Sutter County Airport would be approximately 38 dBA at the project site. Because the project site is not within the noise contours determined for human disturbance, because the noise resulting from aircrafts would not exceed Yuba County standards (50 dBA), and because the proposed project does not include the development of any noise-sensitive receptors, the proposed project would not expose people residing or working on the project site to excessive noise levels. Therefore, this impact would be less than significant.
3.12 POPULATION AND HOUSING

This analysis summarizes existing population and housing conditions in Yuba County. It presents estimates of changes to those conditions that could be created with implementation of the proposed project, or changes that could trigger adverse physical effects in the region.

ENVIRONMENTAL SETTING

POPULATION

The project site is located in unincorporated Yuba County near the community of Linda. The project site is rural, with adjacent residential and rural uses. The population of Yuba County has grown moderately in recent years, from 57,700 in 1990 to 68,800 in 2001 (SACOG 2002) to 71,929 in 2008 (SACOG 2008). Population projections for the county by the Sacramento Area Council of Governments (SACOG) predict that the population will grow to approximately 139,484 residents by 2035 (SACOG 2007). The increase in new residents would be approximately 67,555 by 2035, or a little more than 48%. The population in Linda as of 2007 was 16,101 (City-Data 2007).

HOUSING

According to information provided by SACOG, approximately 3,775 housing units were constructed in Yuba County between 2000 and 2008 (SACOG 2008). This is a 15% increase in the number of housing units within the county during this 7-year time period. The July 2007 estimate of housing units in Yuba County was 27,979 (U.S. Census Bureau 2007) and the total number of housing units in the community of Linda in 2000 was 4,492 (U.S. Census Bureau 2000).

DISCUSSION

a) Induce substantial 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. The proposed project would not involve the construction of new homes or businesses or the extension of roads or infrastructure. Construction would occur only on undeveloped land that already contains flood
protection features. Construction jobs generated by project activity would be temporary and could be filled by the existing construction workforce in the area. These jobs would not directly or indirectly induce substantial population growth. Implementation of the proposed project would not affect current and/or planned population growth patterns within Yuba County and would not affect the population goals as outlined in the County General Plan. Therefore, no impact would occur.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No Impact. Because proposed erosion repair activities would not disturb any existing development, they would not displace any existing housing or disrupt or divide an established community. Therefore, no impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. Because the proposed erosion repair activities would not disturb any existing development, they would not displace housing or residents. Therefore, the proposed project would not necessitate the construction of replacement housing elsewhere. No impact would occur.
### 3.13 PUBLIC SERVICES

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIII. Public Services: Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

This section provides an overview of existing public services in the project vicinity—fire protection, police service, and school facilities. Impacts are evaluated in relation to the potential for increased demand for public services associated with the proposed project.

### ENVIRONMENTAL SETTING

#### FIRE PROTECTION

The project site is serviced by the Linda Fire Department. The Linda Fire Department currently maintains two fire stations, one in the community of Arboga and the second located on Scales Avenue across from the Peach Tree Mall. The department has a “mutual aid” agreement with other fire agencies so that companies from other jurisdictions may respond to fire alarms.

#### POLICE SERVICES

The Yuba County Sheriff’s Department provides service to the project site. The department provides 24-hour service 365 days a year to more than 55,000 residents in unincorporated Yuba County.

#### SCHOOL FACILITIES

Marysville Joint Unified School District provides educational services to the area encompassing the project site. Cedar Lane Elementary School is the closest school to the project site, located approximately one-quarter mile east of the project site at 841 Cedar Lane. Cedar Lane Elementary School, constructed in 1950, includes grades kindergarten through fifth grade.
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:

No Impact. The proposed project does not include proposals for new housing. Therefore, it would not generate students or increase demands for school services or facilities. The proposed project would not increase demands for fire protection, sheriff’s services, or other public facilities because it would not include new structures, such as housing or businesses, or indirectly increase housing or businesses in the project vicinity. Waterside levee repair and maintenance would not change the type or intensity of land uses in the area; therefore, the demand for fire and sheriff’s protection services under the proposed project would be the same as that currently provided on-site. Emergency response services would be unhampered during project construction and operation. Nonetheless, plans to ensure the continuation of emergency response services during construction would be incorporated into final project specifications in accordance with County requirements. The proposed project would not alter the current demand for public services and no additional services or changes to existing services would be required. Therefore, no impact would occur.
3.14 RECREATION

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV. Recreation. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL SETTING

According to the draft *Yuba County Parks Master Plan* (Yuba County 2008c), 28 neighborhood parks and three community parks are located in Yuba County. According to the EIR for the *East Linda Specific Plan* (Yuba County 1990), limited existing recreation opportunities are available near the project site. The *East Linda Specific Plan* calls for the construction of five parks—one communitywide park and four neighborhood parks. These park facilities would be supplemented by the recreation facilities at the school sites and along floodway/bikeway easements. The closest recreation facilities to the project site are the playgrounds and sports fields at Cedar Lane Elementary school, one-quarter mile east of the project site at 841 Cedar Lane.

In addition to more formal recreational facilities in the area, the tops of local levees are used for bicycling, walking, and jogging. However, the Feather River east levee is not intended to act as a recreation facility. Although fishing occurs along the Feather River at access points available to the public, the project site and vicinity are not intended to be public access points.

Recreation uses along the Feather River near the project site could be temporarily affected by noise and visual disturbances from construction activities associated with levee repairs. Because construction is anticipated to occur between late spring and summer, it can be assumed that recreationists could be present during the construction period. Effects of construction activity on recreationists in areas along the west bank of the Feather River are expected to be minor because of the distance between the construction area and recreation sites across the river. Construction activity is also not expected to substantially disrupt recreational opportunities near the east river bank because use of these areas is light and disturbance would be temporary.

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 does not include proposals for new housing; therefore, it would not generate new demand for recreation services or facilities. There are no formally identified recreation facilities on the project site or in the immediate vicinity. Therefore, no existing facilities would be directly affected by project implementation. Although the ramp over the levee near the project site is informally used to access the Feather River, the Feather River floodway, and the levee crown for various recreational activities (e.g., fishing, walking, jogging), the project site and its vicinity are not intended to be public access points. Multiple other access points...
to the levee and Feather River floodway are available in the area and project construction would not substantially restrict recreational access.

Recreation uses along the Feather River near the project site could be temporarily affected by noise and visual disturbances from construction activities associated with levee repairs. Because construction is anticipated to occur between late spring and summer, it can be assumed that recreationists could be present during the construction period. Effects of construction activity on recreationists in areas along the west bank of the Feather River are expected to be minor because of the distance between the construction area and recreation sites across the river. Construction activity is also not expected to substantially disrupt recreation opportunities near the east river bank because use of these areas is light and disturbance would be temporary.

Any temporary shift in use of off-site recreation facilities resulting from project construction would not be expected to accelerate the physical deterioration of any existing facility. Therefore, no impact would occur.

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 proposed project does not include proposals for new housing; therefore, it would not generate new demand for recreation services or facilities. No impact would occur.
3.15 TRANSPORTATION/TRAFFIC

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XV. Transportation/Traffic. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>f) Result in inadequate parking capacity?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL SETTING

STATE HIGHWAYS

SR 70

SR 70 is the primary highway in the project vicinity. SR 70 provides north-south circulation between Marysville and the Sacramento metropolitan area. SR 70 is a two- and four-lane highway that extends east of the project site.

SR 20

SR 20 is located north of the project site. SR 20 provides east-west circulation from the west in Sutter County through Marysville, and into Nevada County to the east. SR 20 is a two-, four-, and six-lane highway (Yuba County 1994a).

LOCAL ROADWAYS

Feather River Boulevard extends south from Marysville, passing just to the east of the project site. This road serves the community of West Linda and the industrial and agricultural areas of southwest Yuba County.

Feather River Boulevard terminates in the south at an at-grade intersection with SR 70, just north of the SR 70
overcrossing of the Bear River. Traffic that typically uses Feather River Boulevard includes agricultural equipment, truck traffic from food processing plants and industrial sites located on Feather River Boulevard, and traffic from residents of the Plumas Lake Specific Plan area. Within the project vicinity, Feather River Boulevard is also called Riverside Drive. Residential streets located within the project vicinity are Alicia Avenue, Garden Avenue, and Cedar Lane.

Roadways within the project vicinity are traveled by automobiles, trucks, motorcycles, emergency vehicles, and agricultural equipment (USACE 2002).

AIRPORTS

Two general-aviation airports are located in the project vicinity. Yuba County Airport is located approximately 1.5 miles south of the project site and the Sutter County Airport is located approximately 1 mile west of the project site.

TRANSIT

Yuba-Sutter Transit provides public transportation within the project vicinity. Local routes serve Yuba City, Yuba College, Olivehurst, Marysville, and Linda. A combination of advance reservation and scheduled bus services are offered from selected rural cities and communities to the Marysville/Yuba City urban area. Local Route 3, Olivehurst to Yuba College, and Local Route 6, the Linda Shuttle, provide bus service in the project vicinity (Yuba-Sutter Transit 2008).

RAILROADS

The Union Pacific Railroad (formerly Western Pacific Railroad) is the only railroad line within the project vicinity. It travels alongside SR 70 approximately one-half mile east of the project site. CN Rail Service is a branch of a larger line and locally it serves the community’s industries. The train schedules depend on necessity and trains do not use the line on a consistent basis (USACE 2002).

DISCUSSION

a) **Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?**

**Less-than-Significant Impact.** It is estimated that approximately 26 daily one-way truck trips roughly 10 miles in length would be needed to transport 6,550 cy and 75,000 square feet of material (e.g., geotextiles and erosion control matting) necessary for construction. This assumes a truck capacity of 10 cy and 38 days of construction operations. The material for the levee reinforcement would be moved from a nearby quarry and materials distribution center. In addition, up to 50 additional one-way daily vehicle trips would be associated with worker commute trips.

The increased traffic resulting from construction of the proposed project would be temporary and would be spread out over an approximately 2-month period. Project operation would not require any additional vehicle trips. Maintenance and monitoring of the levee would be consistent with the existing maintenance and monitoring schedule. The proposed project would not result in any new or different land uses or population increases. Because the increased traffic from construction would be temporary and traffic would not increase because of operation of the levee repair and levee maintenance road improvements, this impact would be less than significant.
b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

**Less-than-Significant Impact.** As above in a), the increased traffic resulting from project construction would be short term and temporary. Because of the relatively small size of the project and brief period of construction, no substantial number of trips would be generated in any one day. In addition, many project-generated vehicle trips would be spread out over the day, and over different roadways, limiting the potential for substantial numbers of trips to be added to any one intersection or roadway during a peak-hour period. It is not anticipated that the proposed project would add sufficient trips to degrade levels of service below acceptable standards. Therefore, this impact would be less than significant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

**No Impact.** The proposed project would not change air traffic patterns or increase air traffic levels. Therefore, no impact would occur.

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

**Less-than-Significant Impact.** The proposed project would not result in alterations to existing public roadways. Therefore, the safety of the public transportation network would not be affected. Project operation would not result in any change in land uses, and therefore would not alter the compatibility of uses served by the public roadway network. This impact would be less than significant.

e) Result in inadequate emergency access?

**Less-than-Significant Impact.** Emergency access to the project site and vicinity would not be altered during project construction or operation. As part of County authorizations, plans to ensure the continuation of emergency response services during construction would be incorporated into construction traffic planning. This impact would be less than significant.

f) Result in inadequate parking capacity?

**No Impact.** Operation of the proposed project would not generate parking demand. Parking for construction and crew vehicles would be provided within the proposed construction staging area. Therefore, no impact would occur.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

**No Impact.** Implementation of the proposed project would not interfere with Yuba-Sutter Transit routes or service in the project vicinity. Therefore, no impact would occur.
### 3.16 UTILITIES AND SERVICE SYSTEMS

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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<td>XVI. Utilities and Service Systems. Would the project:</td>
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<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
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</tr>
<tr>
<td>b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
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<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
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<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
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<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e) 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?</td>
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<td>☐</td>
<td>☐</td>
<td>☒</td>
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<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
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<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
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<td>☐</td>
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</tbody>
</table>

This section provides an overview of utilities and service systems in the project vicinity—water supply, wastewater service, solid waste management, and stormwater drainage. Impacts are evaluated in relation to increased demand for utilities and service systems associated with the proposed project.

**ENVIRONMENTAL SETTING**

The project site is located in Yuba County along the east side of the Feather River, just west of the unincorporated community of Linda. According to the EIR for the East Linda Specific Plan (Yuba County 1990), water is supplied to the community of Linda by Linda County Water District, and derived from groundwater sources through a series of wells. No wells or water mains are located near the project site.

Wastewater treatment in Linda is also provided by Linda County Water District. The wastewater treatment plant is located just east of the Feather River levee, approximately 2.3 miles south of the project site. The plant’s discharge and holding ponds are located on the west side of the levee within the Feather River floodplain, west and southwest of the plant. The district has permission to discharge treated water into the Feather River from November to May, but this is not always necessary because of the adequate capacity of its evaporation ponds. No sewer mains are located in the project vicinity.
Electricity and natural gas are provided to the community of Linda by the Pacific Gas and Electric Company. No major utility corridors exist within the project site. Storm drainage service is provided by RD 784. No major storm drainage facilities are located in the project vicinity.

**DISCUSSION**

a) **Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

**No Impact.** The proposed project would not involve the construction of new homes, businesses, or other uses that could generate any new source of wastewater. Therefore, no impact would occur.

b) **Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**No Impact.** The proposed project would not involve the construction of new homes, businesses, or other uses that could generate any new source of wastewater. Therefore, no new demand for wastewater treatment facilities would be generated. No impact would occur.

c) **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**No Impact.** The project site is located within the Feather River floodway. Storm drainage services are not provided to this area, and none are needed, as stormwater flows naturally to the Feather River. Therefore, the proposed project would not require the construction or modification of storm drainage facilities. No impact would occur.

d) **Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

**Less-than-Significant Impact.** Construction and operation of the proposed project would not create any new demands for water supply other than relatively small amounts of water usage associated with dust control during construction. This temporary and short-term water demand can be met by existing available supplies. This impact would be less than significant.

e) **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 involve the construction of new homes, businesses, or other uses that could generate any new source of wastewater. Therefore, no impact would occur.

f) **Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?**

**Less-than-Significant Impact.** Other than disposal of a small amount of excess construction material and packaging, the proposed project is not anticipated to generate any additional solid waste or to create a demand for solid-waste disposal capacity. This temporary and short-term generation of a relatively small amount of solid waste can be accommodated within existing solid-waste disposal facilities. This impact would be less than significant.
g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. Solid waste generated by project construction would be disposed of in compliance with all applicable laws and regulations. No waste types would be generated outside of what would be expected at a construction site with activities focused on earthmoving. Therefore, no impact would occur.
3.17 MANDATORY FINDINGS OF SIGNIFICANCE

<table>
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<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
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<th>Less Than Significant Impact</th>
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XVII. Mandatory Findings of Significance.

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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?  
☐ ☒ ☐ ☐

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

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?  
☐ ☒ ☐ ☐

Authority: Public Resources Code Sections 21083 and 21087.  

DISCUSSION

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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. Development of the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory. As discussed in the analyses provided in this IS, mitigation measures are proposed to reduce all potentially significant impacts on biological and cultural resources, as well as to other issue areas, to a less-than-significant level.
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than Significant with Mitigation Incorporated. No past, current, or probable future projects were identified in the project vicinity that, when added to project-related impacts, would result in cumulatively considerable impacts. No cumulatively considerable impacts would occur with development of the proposed project. As discussed in the analyses provided in this IS, mitigation measures are proposed to reduce all potentially significant impacts to a less-than-significant level. The incremental effects of the proposed project are not cumulatively considerable when viewed in connection with the effects of past, current, and probable future projects.

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

Less than Significant with Mitigation Incorporated. No project-related environmental effects were identified that would cause substantial adverse effects on human beings after mitigation was incorporated. As discussed herein, the proposed project has the potential to create temporary significant impacts related to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise during construction. However, with implementation of required mitigation measures, these impacts would be reduced to a less-than-significant level.
4 REFERENCES

ARB. See California Air Resources Board.


California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. Sacramento, CA.


California Department of Transportation. 1987. Inventory of Historic Bridges. On file at the North Central Information Center, California State University, Sacramento. Sacramento, CA.


———. 2000. Inventory of Historic Bridges. On file at the North Central Information Center, California State University, Sacramento. Sacramento, CA.


Three Rivers Levee Improvement Authority
Erosion Site 2 Repair Project IS/MND

EDAW
References

4-1


Caltrans. See California Department of Transportation.


CNDDB. See California Natural Diversity Database.

CNPS. See California Native Plant Society.

DFG. See California Department of Fish and Game.

DWR. See California Department of Water Resources.

EPA. See U.S. Environmental Protection Agency.


FHWA. See Federal Highway Administration.

FICON. See Federal Interagency Committee on Noise.
For Three Rivers Levee Improvement Authority EDAW

Erosion Site 2 Repair Project IS/MND

References

FMMP. See Farmland Mapping and Monitoring Program.


FTA. See Federal Transit Administration.

General Land Office. 1859. Plat of the New Helvetia Rancho. Map on file at the North Central Information Center, California State University, Sacramento. Sacramento, CA.


Jones & Stokes. 2004. *Cultural Resources Inventory for the Yuba River Levee Improvement Project, Yuba County, California.* Report No. 7909 on file at the North Central Information Center, California State University, Sacramento. Sacramento, CA.


NRCS. See Natural Resources Conservation Service.


SACOG. See Sacramento Area Council of Governments.


SWRCB. See State Water Resources Control Board.


TRLIA. *See* Three Rivers Levee Improvement Authority.


USACE. *See* U. S. Army Corps of Engineers.


USFWS. *See* U.S. Fish and Wildlife Service.


———. 1909b. Yuba City Quadrangle. On file at the North Central Information Center, California State University, Sacramento. Sacramento, CA.

USGS. *See* U.S. Geological Survey.
References 4-6 Erosion Site 2 Repair Project IS/MND


YCWA. See Yuba County Water Agency.


Yuba County Sheriff’s Department. 2007. Annual Report. Marysville, CA.


5 PREPARERS OF THE ENVIRONMENTAL DOCUMENT

This initial study (IS) was prepared by EDAW in cooperation with the other members of the flood control study team. EDAW was responsible for project management and IS preparation. The IS technical team and other flood control study team members provided technical expertise, as presented below.

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Project Manager ......................................................................................................................................... Kristen Stoner
Population and Housing ............................................................................................................................. Kristen Stoner
Aesthetics ....................................................................................................................................................... Jeanine Hinde
Agricultural Resources ................................................................................................................................. Jeanine Hinde
Land Use and Planning ................................................................................................................................. Jeanine Hinde
Geology and Soils ......................................................................................................................................... Jeanine Hinde
Transportation/Traffic ................................................................................................................................. Nisha Chauhan
Public Services and Utilities ......................................................................................................................... Talia Stough
Hazards and Hazardous Materials ............................................................................................................... Talia Stough
Mineral Resources ....................................................................................................................................... Talia Stough
Recreation ...................................................................................................................................................... Talia Stough
Hydrology and Water Quality ........................................................................................................................ Sarah Henningsen
Air Quality ..................................................................................................................................................... Honey Walters
Noise ............................................................................................................................................................. Honey Walters
Biological Resources ................................................................................................................................... Tracy Walker
Biological Resources Review ....................................................................................................................... John Downs
Cultural Resources ....................................................................................................................................... Anna Starkey
Cultural Resources Review .......................................................................................................................... Richard Deis

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................................................................................................................................................................ Alberto Pujol
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PBS&J (Environmental Review) .................................................................................................................... Anja Raudabaugh
APPENDIX A

Construction-Related Emissions Calculations
Off-Road Equipment:

- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 3.2 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 3.2 hours per day

Maximum Daily Acreage Disturbed: 0.5
Total Acres Disturbed: 11.5


On Road Truck Travel (VMT): 291.11
20 lbs per acre-day

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 3.2 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 3.2 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 3.2 hours per day

### CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

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<th>SO2</th>
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Phase Assumptions

- Total Acres Disturbed: 11.5
- Maximum Daily Acreage Disturbed: 0.5
- Fugitive Dust Level of Detail: Default
- 20 lbs per acre-day
- On Road Truck Travel (VMT): 291.11
- Off-Road Equipment:
  - 2 Excavators (168 hp) operating at a 0.57 load factor for 3.2 hours per day
  - 1 Graders (174 hp) operating at a 0.61 load factor for 3.2 hours per day
  - 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 3.2 hours per day
  - 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 3.2 hours per day
  - 1 Water Trucks (189 hp) operating at a 0.5 load factor for 3.2 hours per day
### Summary Report for Summer Emissions (Pounds/Day)

#### Construction Emission Estimates

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#### Sum of Area Source and Operational Emission Estimates

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