

**Forsythe Creek Bridge (No. 10C-0077) on
Reeves Canyon Road Replacement Project**

**Proposed Mitigated Negative Declaration and Initial Study
PUBLIC DRAFT**

July 2014

Prepared for:

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- 1. Project Title:** Forsythe Creek Bridge (No. 10C-0077) on Reeves Canyon Road Replacement Project
- 2. Lead Agency Name and Address** Mendocino County Department of Transportation
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Ukiah, CA 95482
- 3. Contact Person and Phone Number** Jackson Ford, Environmental Compliance Specialist
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- 4. Project Location** Reeves Canyon Road at Forsythe Creek, approximately 2 miles west of the community of Redwood Valley, Mendocino, County, California; Township 16 North, Range 13 West, Section 1, *Laughlin Range, California* quadrangle; Assessor Parcel Numbers: 106-160-3100 and 162-020-1400
- 5. Project Sponsor's Name** Scott Heegler, P.E., Project Manager
Mendocino County Department of Transportation
340 Lake Mendocino Drive
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- 6. General Plan Designation** Rangeland (RL 160) – minimum parcel size 160 acres
- 7. Zoning** Rangeland and Floodplain

8. Description of Project

The Mendocino County Department of Transportation (County) proposes to replace the existing bridge (No. 10C-0077) on Reeves Canyon Road (project) over Forsythe Creek and construct the necessary roadway approach improvements. In 2010, the Forsythe Creek bridge was found to be structurally deficient due to substandard load carrying capacity. The County has nominated this bridge for replacement under the federal-aid Highway Bridge Program administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance program. The replacement bridge construction will conform to the standards prescribed in the American Association of State Highway and Transportation Officials (AASHTO) Bridge Design Specifications (American Association of State Highway and Transportation Officials 2010), Caltrans amendments to the AASHTO Load and Resistance Factor Design specifications (California Department of Transportation 2011b), Caltrans *Seismic Design Criteria Version 1.6* (California Department of Transportation 2010), and the County.

The bridge would be replaced with a longer structure aligned upstream (northeast) of the current alignment. The new bridge would be constructed of a three-span, cast-in-place, post-tensioned concrete slab. Reeves Canyon Road would be realigned and the new bridge would be located on the northeast side of the existing bridge. The new roadway alignment would remove the existing sharp horizontal curve located south of the existing bridge. Construction of the new bridge outside the current alignment would allow continued use of the existing bridge during construction. The new

bridge would have a higher profile than the existing bridge to ensure adequate clearance of 100-year flood event flows. The re-aligned roadway approaches would be graded to conform to the existing road and would be paved throughout the conform limits—whereas, the existing roadway is mostly an unpaved gravel surface—and the roadway would be widened to meet the County design standards for a Local Rural Roadway.

A temporary work area within the channel would be needed to construct the necessary falsework and to drop the existing bridge onto during its removal. It is anticipated that Forsythe Creek would have a relatively small amount of water flow during the construction season. Following completion of the work, the falsework, diversion, and gravel work pad would be removed, settling basins would be backfilled, and the stream would be allowed to naturally reform the channel through any fish rock left in place. The existing bridge would remain in operation throughout construction and be removed and disposed of off-site after the new bridge has been completed.

9. Surrounding Land Uses and Setting

Rural Residential/Grazing/Pasture/Floodplain

10. Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement.)

- Federal Highway Administration
- U.S. Army Corps of Engineers (San Francisco District)
- National Oceanic and Atmospheric Administration Fisheries Service
- California Department of Fish & Wildlife (Region 1)
- California Regional Water Quality Control Board (North Coast Region)
- California Department of Transportation (District 1)
- Mendocino County Planning Department

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Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AC	asphalt concrete
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
ASR	Archaeological Survey Report
BA	Biological Assessment
BMP	Best Management Practice
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CIDH	cast-in-drilled-hole
CNDDDB	California Natural Diversity Database
CO ₂	carbon dioxide
Corps	U.S. Army Corps of Engineers
County	Mendocino County
CWA	Clean Water Act
dB	decibel
dbh	diameter at breast height
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EFH	Essential Fish Habitat
EFHA	Essential Fish Habitat Assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
°F	degrees Fahrenheit
FHWA	Federal Highway Administration
GHG	greenhouse gas
HBBR	Highway Bridge Replacement and Rehabilitation
HDPE	High Density Polyethylene
HEPA	high energy particulate air
HRER	Historical Resources Evaluation Report
HPSR	Historical Properties Survey Report
IS	Initial Study
MND	Mitigated Negative Declaration
NEPA	National Environmental Policy Act

NES	Natural Environmental Study
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NSR	North State Resources
OHWM	ordinary high water mark
PM ₁₀	particulate matter 10 microns or less
project	Reeves Canyon Road at Forsythe Creek Bridge Replacement Project
Q ₅₀	50-year flood
Q ₁₀₀	100-year flood
ROW	right of way
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
RMS	root mean square
SWPPP	Storm Water Pollution Prevention Plan

1 Introduction

1.1 Introduction and Regulatory Guidance

This document is an Initial Study (IS) that summarizes the technical studies prepared for the proposed Reeves Canyon Road at Forsythe Creek Bridge (No. 10C-0084) Replacement Project (project). It includes an evaluation of potential environmental impacts that could result from the project and provides justification for a Mitigated Negative Declaration (MND) for the project. This document has been prepared in accordance with the current California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines. Mitigation measures have been proposed to avoid or minimize any significant impacts that were identified.

1.2 Lead Agency

The Lead Agency is the public agency with primary responsibility for implementing a project. The project would receive funding through federal and state sources and would require approvals from the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans). FHWA has designated Caltrans to act as the National Environmental Policy Act (NEPA) Lead Agency on its behalf. The Mendocino County Department of Transportation (County) is the CEQA Lead Agency. NEPA approval is anticipated to be in the form of a Categorical Exclusion supported by technical studies.

1.3 Supporting Technical Studies

The technical studies listed below are available for review at the County. Please contact:

Jackson Ford, Environmental Compliance Specialist
Mendocino County Department of Transportation
340 Lake Mendocino Drive
Ukiah, CA 95482
Phone: (707) 463-4622

Technical studies conducted for this project include:

- Archeological Survey Report (ASR)/Historical Properties Survey Report (HPSR); Historical Resources Evaluation Report (HRER); Extended Phase I Report; and the Environmentally Sensitive Area Action Plan (all cultural reports are confidential; available to qualified readers only)
- Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) Report
- Natural Environment Study (NES) Report
- Design Hydraulic Study
- Wetland Delineation Report
- Initial Site Assessment
- Preliminary Geotechnical Investigation Report

- Construction Noise Memorandum
- Farmland Impact Assessment

1.4 Document Organization

The IS consists of the following chapters:

Chapter 1.0 – Introduction: describes the purpose and content of this document.

Chapter 2.0 – Project Description: provides a comprehensive description of the project, tentative schedule, required permit approvals, and project alternatives.

Chapter 3.0 – Environmental Impacts and Mitigation Measures: describes the environmental impacts of the project using the CEQA Environmental Checklist. Where appropriate, mitigation measures are provided that would reduce potentially significant impacts to a less-than-significant level.

Chapter 4.0 – Determination: provides the environmental determination for the project.

Chapter 5.0 – Summary of Mitigation Commitments: provides a comprehensive list of all mitigation measures proposed for the project.

Chapter 6.0 – Report Preparation: identifies the individuals responsible for preparation of this document.

Chapter 7.0 –References: provides a list of references used to prepare this document.

2 Project Description

2.1 Location

Reeves Canyon Road at the Forsythe Creek Bridge (No. 10C-0077) is located approximately 2 miles west of the unincorporated community of Redwood Valley, Mendocino County, California and about 0.5 mile northwest of U.S. Highway 101/State Route 20. The bridge crosses Forsythe Creek, a tributary to the Russian River, which ultimately empties into the Pacific Ocean approximately 60 miles north of the San Francisco Bay Golden Gate. The 1.82 acre project area is found on the *Laughlin Range, California* 7.5 minute U.S. Geological Survey quadrangle, Township 16 North, Range 13 West, Section 1, Mount Diablo Base & Meridian. The project location is shown in Figure 1. The project area corresponds to a Mendocino County right-of-way (ROW) easement through portions of the following Assessor Parcel Numbers (APN): 106-160-3100 and 162-020-1400.

2.2 Existing Facility Conditions

Reeves Canyon Road is an unpaved gravel road varying in width (generally about 18 feet wide), with an assumed right of way (ROW) of 40 feet. The Average Daily Traffic Volume of the road is less than 400 vehicles per day. It is classified by the County as a Local Rural Roadway.

The existing bridge is a 120-foot long, three-span structure with a 12-foot wide deck (clear width) that carries Reeves Canyon Road over Forsythe Creek. The existing bridge deck is constructed of a timber deck over railroad flatcars supported on reinforced concrete pier walls founded on steel piles. The reinforced concrete abutments are on spread footings, with timber pile/lagging wingwalls. The bridge is supported on concrete piers in the Forsythe Creek channel, below the ordinary high water mark (OHWM). Abutment footings exhibit signs of erosion and are exposed as a result of significant scour.

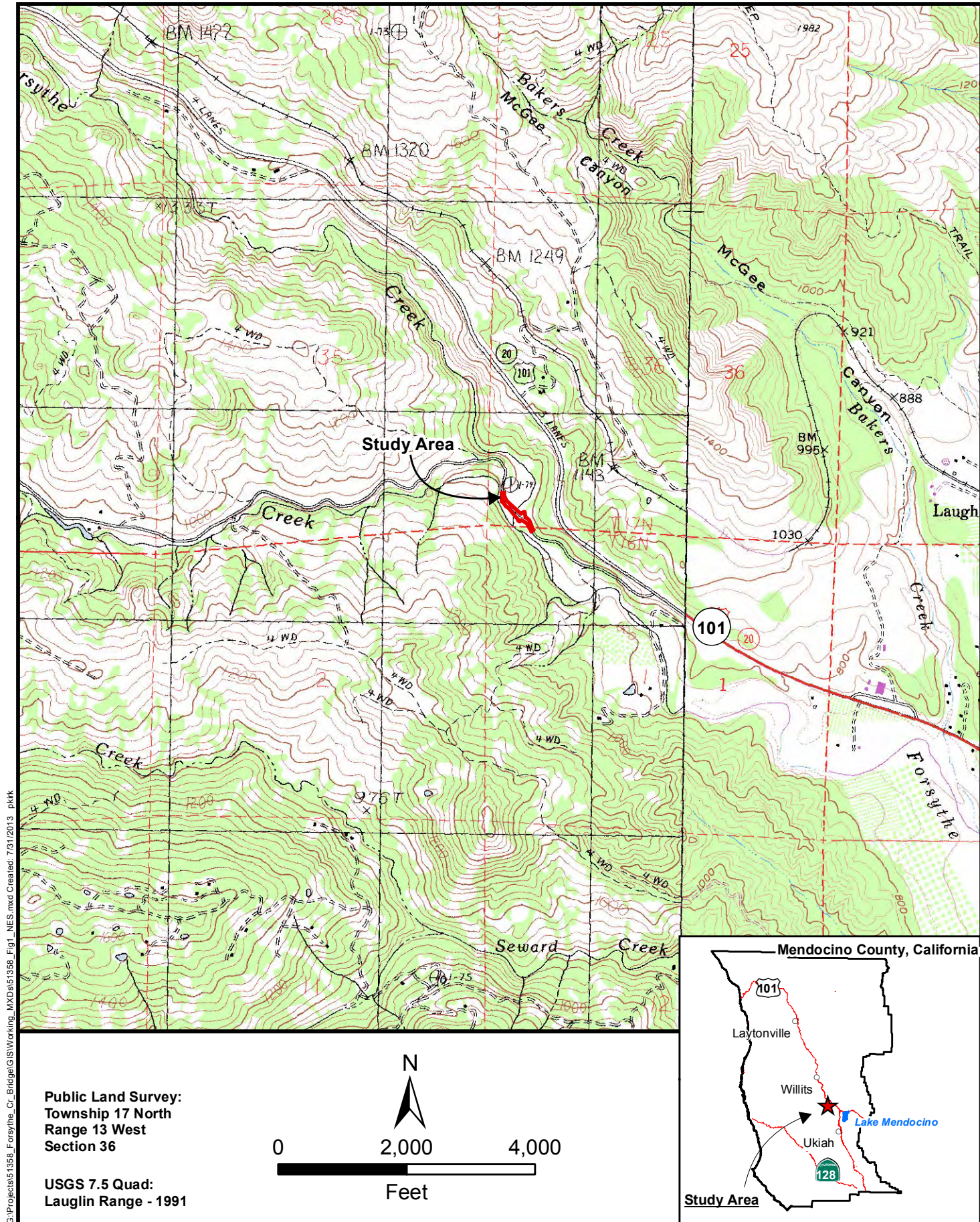
2.3 Project Purpose and Need

The purpose of this project is to improve public safety by providing a safe and cost effective solution for traffic to cross Forsythe Creek. In 2010 the County identified the need for replacement after the bridge was found to be structurally deficient due to substandard load carrying capacity.

2.4 Proposed Project

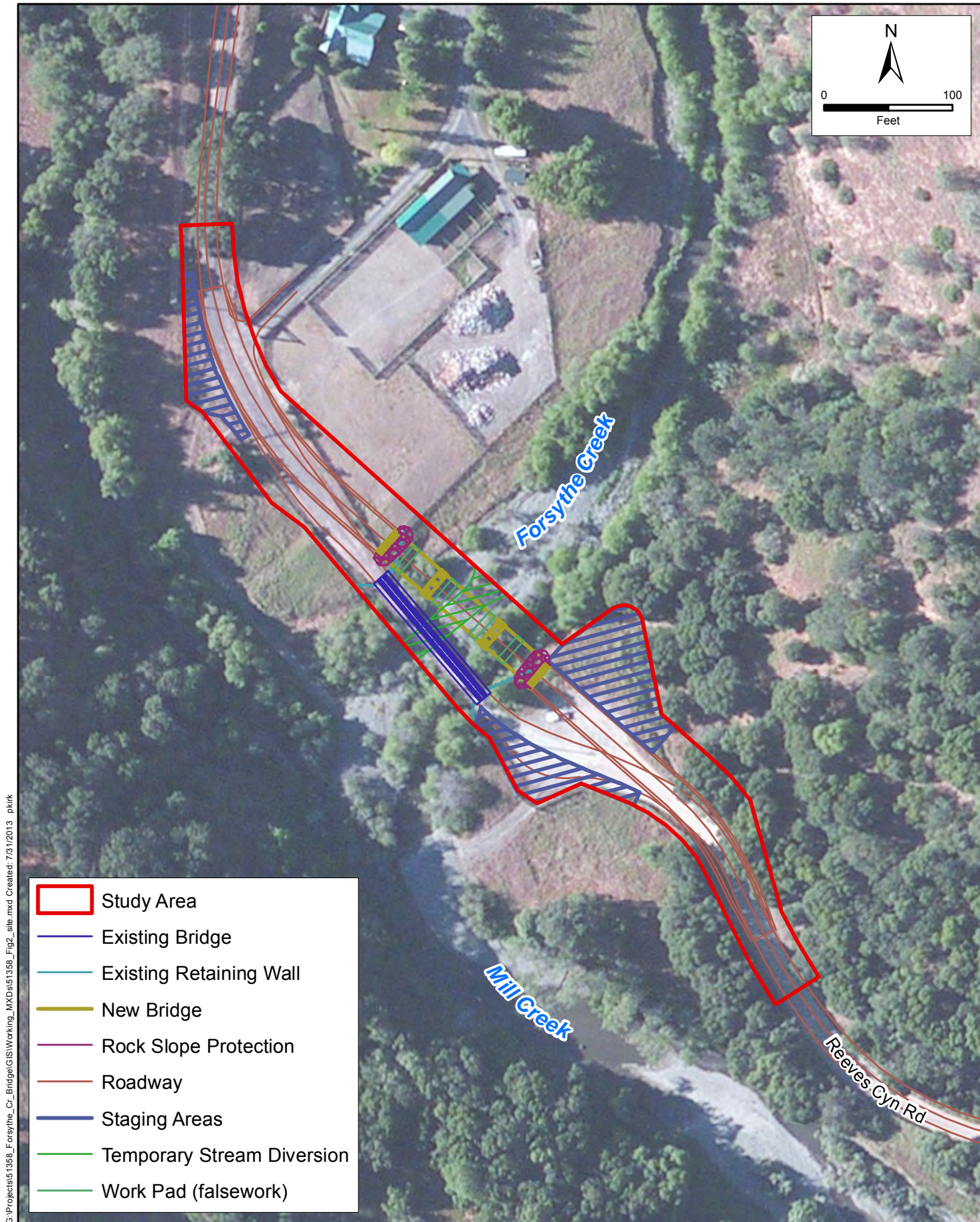
2.4.1 Replacement of Existing Bridge with a New Structure

The bridge would be replaced with a longer structure located upstream of the existing bridge (Figure 2). The new bridge would provide a clear width between barrier rails of 22 feet per recommendations outlined in the Association of State Highway and Transportation Officials (AASHTO) guidelines. The bridge would consist of two 9-foot-wide lanes and two 2-foot-wide shoulders. A metal railing would be attached to the edge of the deck of the new structure. The proposed bridge would be 34 feet



Reeves Canyon Road Over Forsythe Creek Bridge Replacement Project

Figure 1
Location and Vicinity Map



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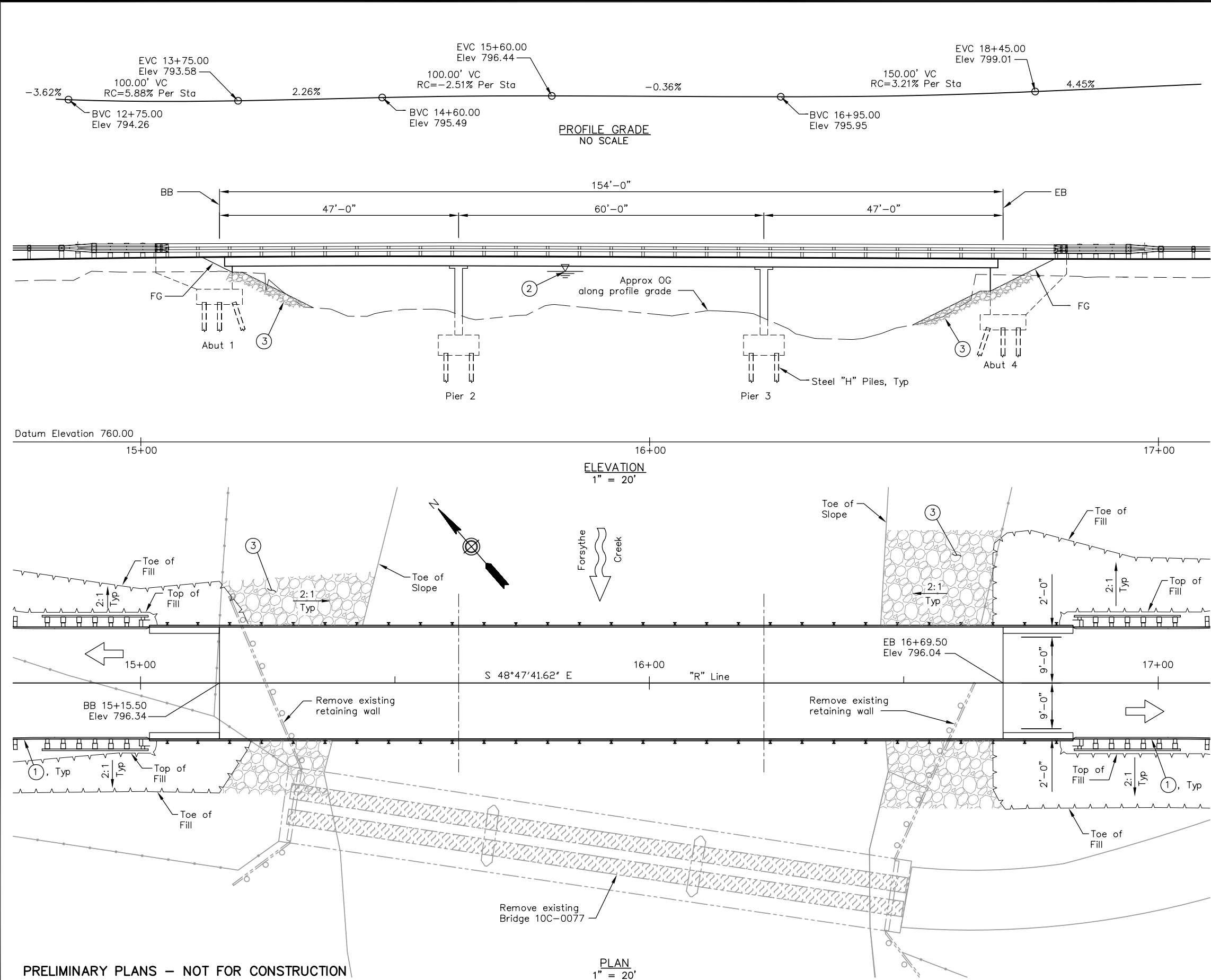
Figure 2
Proposed Project Features

longer than the existing bridge and have a minimum soffit elevation that is 3 feet higher. The Hydraulic Design Criteria established in the Caltrans Local Procedures Manual prescribe that the facility be capable of conveying the base 100-year flood (Q_{100}) and passing the 50-year flood (Q_{50}) without causing objectionable backwater, excessive flow velocities or encroaching on through traffic lanes. The freeboard would be increased from none under existing conditions to 1.4 feet under proposed conditions for the 50-year discharge. The proposed 1.4 feet of freeboard over Q_{50} and 0.5 feet over Q_{100} should provide sufficient freeboard to pass all drift. Additionally, the minimum design criteria for this project would provide at least 1.4 feet of freeboard for drift above Q_{50} and the ability to withstand the potential scour effects of Q_{100} .

The proposed replacement bridge would be a three-span, 154-foot-long, cast-in-place, post-tensioned concrete slab with a structure depth of 1.8 feet. This structure type would require the placement of falsework within the channel banks. Figure 3 provides an engineered schematic of the proposed bridge layout, including a cross-section drawing.

Reeves Canyon Road would be realigned and the new bridge would be located on the northeast side of the existing bridge (Figure 2). The new alignment of the roadway would remove the existing sharp horizontal curve located south of the bridge. The new bridge is designed with a higher profile than the existing bridge so that it will clear the 100-year water surface elevation in the creek. As a result, approach grading would be needed to conform back to the adjacent existing road. The approach roadway width consists of two 11-foot-wide lanes and two 2-foot-wide gravel shoulders. The new bridge approaches would be paved throughout the conform limits—whereas, the existing roadway is mostly an unpaved gravel surface—and the roadway would be widened to meet the County design standards for a Local Rural Roadway.

The existing bridge would remain in operation throughout construction and be removed and disposed of offsite after the new bridge has been completed. A temporary work area within the channel would be needed to construct the necessary falsework and to drop the existing bridge onto during its removal. This temporary work area would consist of two features: a temporary stream diversion and work pads to support the false work. The work platform over the temporary stream diversion would cover the channel from 20-feet downstream of the existing bridge to 20-feet upstream of the proposed bridge (a total of 85 feet long and 20 feet wide) (Figure 2). Four work pads approximately 12 feet by 20 feet would be constructed to support the necessary false work. Temporary work platforms would be constructed of suitably sized salmon spawning gravel “fish rock.” Gravel would be uncrushed, rounded, natural river rock with no sharp edges. It would be washed at least once and have a cleanliness value of 85 or higher based on a Caltrans cleanliness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227). Gravel would also be completely free of oils, clay, debris, and organic material. The material used as fish rock for the proposed project will follow the size criteria identified in Table 1.



DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
1	MENDOCINO			3	3

REGISTERED ENGINEER - CIVIL

PLANS APPROVAL DATE

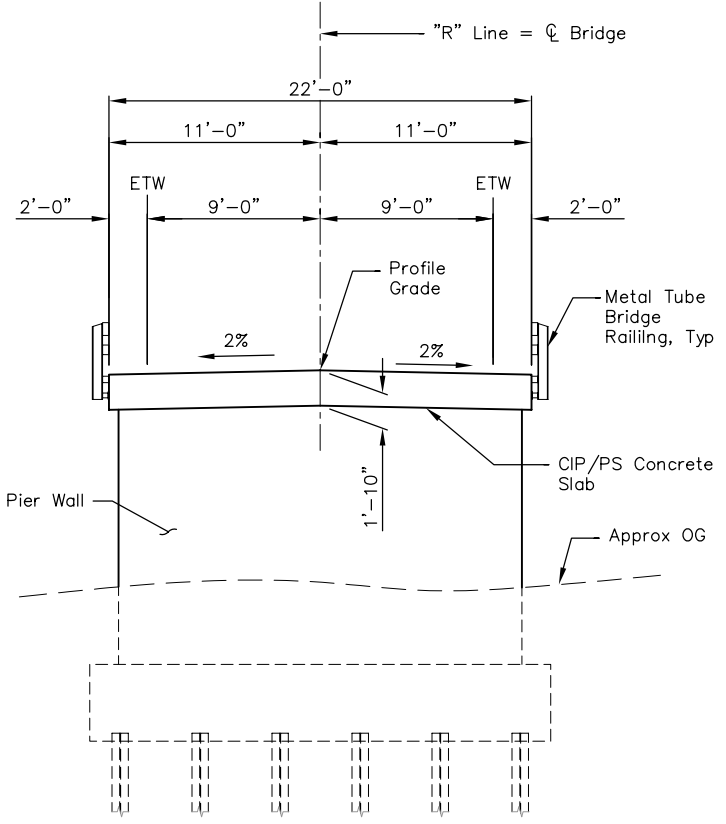
COUNTY OF MENDOCINO
DEPARTMENT OF TRANSPORTATION
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482

REGISTERED PROFESSIONAL ENGINEER

NAME
No. XX
Exp. XX

CIVIL

STATE OF CALIFORNIA



- TYPICAL SECTION**
1" = 10'
- LEGEND**
- Direction of Traffic
 - Direction of Water Flow
 - Indicates Existing Structure

- NOTES:**
- ① For Approach MBGR, see "Roadway Plans"
 - ② High Water Elevation = 793.5 (100-yr Flood)
 - ③ Rock Slope Protection

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Table 1. Size Criteria for Spawning-sized Gravel Fish Rock for Constructing Gravel Work Pad

Particle Size	Percent Passing	Percent Retained
5-inch	95-100	0-5
2-inch	70-85	15-30
1-inch	40-50	50-60
3/4-inch	25-35	65-75
1/2-inch	10-20	80-90
1/4-inch	0-5	95-100

Because fish rock does not stay together under pressure of heavy equipment, clean crushed angular gravel would be placed on top of the fish rock with geotextile fabric separating the crushed angular gravels from the fish rock. To convey flow beneath the temporary work platform, High Density Polyethylene (HDPE) culvert(s) would be installed to maintain flow through the site. All temporary structures will meet National Marine Fisheries Service (NMFS) *Guidelines for Fish Salmonid Passage at Stream Crossings* (National Marine Fisheries Service 2001) and Fish and Game Code Section 5901.

Hydraulic analyses of onsite conditions concluded that scour protection of the abutments from river flows would be required. The scour protection is expected to consist of 1/4-ton RSP along the east and west side of the riverbank for a stretch of 36 feet in length and 12 feet in width. This RSP would be placed above the OHWM and outside of the low-flow channel of Forsythe Creek.

It is anticipated that Forsythe Creek would have a relatively small amount of water flow during the construction season. Abutment excavations would be outside of the baseflow channel. Following completion of work, the falsework, diversion, and gravel work pad would be removed and the stream would be allowed to naturally reform the channel through any fish rock left in place.

2.4.2 Construction Criteria and Methods

Construction specifications would be in accordance with Caltrans Standard Specifications and Standard Special Provisions in force at the time the construction contract is awarded. The following paragraphs describe the construction criteria and methods that would be used for the project.

Equipment and materials would be staged in upland areas on both sides of Forsythe Creek (Figure 2). During construction, traffic through the project area would be maintained using the existing roadway and bridge. To facilitate construction of the new bridge structure and demolition and removal of the existing bridge, a work platform with a temporary stream diversion would be constructed in the channel of Forsythe Creek (Figure 2). To keep fish out of the work area during installation of the culvert pipes and temporary work platform, block nets would be installed upstream and downstream of the instream work area and maintained until the installation of the work platform is complete. Block nets should consist of 0.25-inch mesh nets spanning the entire channel and adequately secured to the channel bottom. Prior to installation of the culverts and temporary work platform, any fish present will be captured and relocated according to methods described in Section 3.2, Section IV, Biological Resources.

The temporary work platform would be constructed of fish rock and covered with clean crushed angular gravel placed on top of geotextile fabric to separate the crushed angular gravel from the fish rock. The platform would be approximately 85 feet long and 20 feet wide. The in-channel project elements would begin after June 15 when there is usually still a small quantity of flow in Forsythe Creek; the flow would be routed beneath the work pad through HDPE culvert(s). A temporary diversion system consisting of clean gravel and plastic sheeting at the upstream end of the work pad would be used to divert any minimal flows into the culverts and beneath the work pad. The temporary stream diversion would be installed within the existing channel thalweg in span 1. Culverts would be designed, constructed, and maintained according to the Hydraulic Design Method described in NMFS (2001) to match the hydraulic performance of the culverts with the swimming abilities of the target species and age class, which, for this project, is juvenile steelhead.

Pile cap foundations would be used at the piers and abutments (Figure 2). To support the piers and abutments, CIDH piles would be used. These would be drilled and rebar cages installed and filled with concrete. After the piles have been installed at the abutments, the existing ground would be excavated to a depth of approximately 10 feet and concrete would be placed neat along the excavated area. At the piers, the existing ground would be excavated to a depth of approximately 6 feet and concrete would be placed neat along the excavated area after the CIDH piles have been installed. Dewatering may be required depending on the depth groundwater is encountered.

The cast-in-place, post-tensioned, concrete bridge would be built on falsework; a temporary framework on which the permanent bridge structure and construction activity would be supported during construction until the permanent bridge structure has reached sufficient strength to support loads. The falsework would be an engineered system, typically consisting of the required bridge concrete formwork supported on a temporary stringers-and-post system. It is likely that this falsework system would use timber and plywood forms, rolled steel girders, and timber posts supported on timber foundation pads. In order to provide an adequate and level support surface for the timber pads, imported clean gravel would be placed on the ground surface. Upon completion of bridge construction, the falsework system would be disassembled and removed, including the imported clean gravel materials.

Once the new bridge is complete, the existing bridge would be removed. Demolition would begin by first stripping the running plates, decking and railing off of the railroad flatcars. The railroad flatcars would be cut from the abutments and pier walls and removed with truck mounted cranes. Upon removing the railroad flatcars, the existing abutments and pier walls would be removed a minimum of 1-foot below original ground per Caltrans Standard Specifications. The existing bridge would be dismantled and disposed of offsite according to Caltrans specifications. The crushed rock atop the gravel work pad would be removed and disposed of offsite. Culverts would be removed beginning at the downstream end of the diversion, leaving the suitable sized materials in place and allowing any stream flow at the site to flow through the gravel material. Once these culverts have been removed, the upstream diversion (sand bags, etc.) would be removed and the stream allowed to naturally flow through the site. If flow remains at the site at the time of removal, the contractor would manually (by hand) redistribute the gravel materials so they would not constitute a barrier to upstream or downstream fish passage.

2.5 Tentative Schedule

It is anticipated that the earliest that construction would start begin in May 2015. Construction is anticipated to require one construction season with project completion expected in October 2015. All instream activities, including bridge removal and substructure and superstructure construction activities would be confined to a work period between June 15 through October 15 to minimize and avoid impacts on water quality. Construction activities below the OHWM of Forsythe Creek may be allowed outside of the June 15 through October 15 period if permitted by the California Department of Fish and Wildlife (CDFW) and the North Coast Regional Water Quality Control Board (RWQCB), depending on weather conditions.

2.6 Required Permits and Approvals

The following permits and approvals likely will be required to implement the project:

- U.S. Army Corps of Engineers – San Francisco District (Eureka Field Office): Section 404 Nationwide Permit 14 (Linear Transportation Crossing Projects)
- National Marine Fisheries Service – Endangered Species Act Compliance (Biological Opinion)
- California Department of Fish and Wildlife – Redding Office: Section 1602 Streambed Alteration Agreement; State Endangered Species Act Compliance
- North Coast Regional Water Quality Control Board: Section 401 Water Quality Certification

2.7 No Project Alternative

In addition to the action alternative, the County also considered a “No Project” alternative in its evaluation of the project, pursuant to CEQA. Under the No Project alternative, the County would not proceed with replacement of the existing Reeves Canyon Road bridge. However, Caltrans and FHWA have identified the existing bridge structure as being seismically deficient. Implementation of the No Project alternative could result in future public safety issues associated with structural integrity of the existing bridge.

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3 Environmental Setting, Impacts, and Mitigation Measures

This chapter incorporates the Environmental Checklist contained in Appendix G of the CEQA Guidelines, including the CEQA Mandatory Findings of Significance. Each resource section provides a brief description of the setting, a determination of impact potential, and a discussion of the impacts. Where appropriate, mitigation measures are provided that would be used by the County to reduce potential impacts to a less-than-significant level. A discussion of cumulative impacts is included at the end of this chapter.

Addressed in this section are the following 17 environmental categories:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

Each of these issue areas was fully evaluated and one of the following four impact determinations was made:

- **No Impact:** No impact to the environment would occur as a result of implementing the proposed project.
- **Less-than-Significant Impact:** Implementation of the proposed project would not result in a substantial and adverse change to the environment and no mitigation is required.
- **Less than Significant With Mitigation Incorporated:** A “significant” impact that can be reduced to a less-than-significant level with the incorporation of project-specific mitigation measures.
- **Potentially Significant Impact:** Implementation of the proposed project could result in an impact that has a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project” (CEQA Guidelines Section 15382).

3.1 Environmental Setting

3.1.1 Regional Setting

The Russian River watershed is one of the largest drainages in northern California, draining a basin of 1,485 square miles in Sonoma and Mendocino counties. The drainage basin, lying between adjoining ridges of the Coast Ranges, is about 80 miles long and 10 to 30 miles wide with its major axis roughly parallel to the coast of California. The Russian River watershed originates in central Mendocino County and flows into the Pacific Ocean at Jenner, about 20 miles west of the city of Santa Rosa. The 110-mile long river links steep mountains, coniferous forests, chaparral, and oak woodlands with wide, flat river valleys. Upstream of Ukiah, the Russian River splits into two branches (east and west). These branches flow through several alluvial valleys separated by rocky gorges.

There are two large storage reservoirs in the Russian River watershed: Lake Mendocino and Lake Sonoma. Lake Mendocino, impounded by Coyote Valley Dam, is located on the East Fork Russian River. The headwaters of the west fork are located in a mountain forest with vegetation composed of pine, redwood, and oak trees. For the most part, however, it flows through hills of range and pastureland with scattered oak trees. There are seasonal water diversions (rubber dams) on the mainstem Russian River owned and operated by the Sonoma County Water Agency (SCWA) at Mirabel and Wohler. SCWA also owns and operates other small flood control reservoirs on Santa Rosa Creek (National Marine Fisheries Service 2008). Upstream of the Forsythe Creek and the west fork of the Russian River confluence is the Mumford Diversion Dam. The Mumford Dam Fish Passage and Riparian Restoration (2002) project opened approximately 50 miles of salmonid spawning and rearing habitat upstream of Mumford Dam on the west fork of the Russian River.

Fertile valley soils are important to regional agriculture, particularly viticulture. Regionally, the Russian River watershed is primarily an agricultural area with the greatest emphasis on vineyard and orchard crops. Major orchard crops include prunes, pears, and apples, while other crops such as cherries and walnuts are also produced. In addition to agriculture, there is increasing light industry and commercial development. The production and processing of timber, agricultural and animal products; gravel removal and processing; energy production; and miscellaneous light manufacturing operations are additional industrial activities in the watershed (Sonoma County Water Agency 2003).

3.1.2 Local Setting

The Forsythe Creek watershed drains 48 square miles (about 30,000 acres) of the Coast Range north of Ukiah and south of Willits, and joins the west fork of the Russian River near Redwood Valley. The project area lies in the foothills of Redwood Valley; which along with the Santa Rosa Plains, Alexander Valley, Hopland Valley, Ukiah Valley, Potter Valley, and other smaller valleys, is one of the few relatively level areas—level areas comprise only about 15 percent of the Russian River drainage basin.

Climate

Climate within the project area is characterized as Mediterranean, with cool, wet winters and hot, dry summers (Western Regional Climate Center 2013). Precipitation in the project area averages

approximately 37 inches annually, falling primarily as rain between October and May. Average air temperatures range between a January high of 57 degrees Fahrenheit (°F) and a July high of 93 °F. The year-round average high is approximately 74 °F.

The basin is divided into two thermal regions: a fog-influenced coastal region and a drier interior region. The coastal region, characterized by cool summers and abundant summer fog moisture, extends 10 miles inland, while the interior region (which includes the project area) experiences hot, dry summers.

Existing Land Uses

The project is in a region considered the headwaters of the Russian River watershed, and is therefore less influenced by the agricultural and industrial land use practices than downstream reaches. Much of the central basin (Forsythe/west fork of the Russian River) region is cultivated as vineyards or used for livestock grazing. Timber harvest is also a predominant land use with scattered rural homesteads. The majority of the Forsythe Creek sub-basin is privately owned, with much of the watershed being managed for timber production and livestock for the past 100 years or so (Stenier Environmental Consulting 1996, Sonoma County Water Agency 2003, National Marine Fisheries Service 2008).

The Reeves Canyon Road project area is located in a part of Mendocino County that has a designated land use of Grazing Land (County of Mendocino 2009). Although residential and industrial uses are allowed, minimum parcel size allowed by the County is 160 acres. The project area is centered on the Reeves Canyon Road corridor, but also includes part of a private residence, specifically livestock corrals belonging to this private parcel. Other lands adjacent to the project are undeveloped and may be used for grazing and as a floodplain. A vineyard (Masut Vineyards and Winery) is located about 0.3 mile southeast of the project area. All of the land immediately adjacent to the project area are designated Williamson Act–Non-Prime Agricultural Land, meaning that it is primarily open space.

Topography

The topography of the project area is generally characterized as a portion of Forsythe Creek channel and the adjacent river valley terraces. The bridge deck is at an approximate elevation of 778 feet above mean sea level. Basin topography is characterized by a sequence of northwest/southeast trending fault-block ridges and valleys. Hills and mountains comprise 85 percent of the basin and alluvial valleys constitute the remaining 15 percent (U.S. Army Corps of Engineers 1982). Unstable Franciscan lithology underlies most mountainous regions, and landslides are common. Primary alluvial regions lie along the course of the mainstem and include the Ukiah and Sanel (Hopland) valleys in Mendocino County, Alexander Valley, and the Santa Rosa Plain in Sonoma County. Mount St. Helena, at 4,344 feet, is the highest point in the basin (Florsheim and Goodwin 1993, Stenier Environmental Consulting 1996). Within the project area, elevation ranges from approximately 685 feet to 750 feet. The west bank is much steeper than the east bank, which levels off on a terrace at about 708 feet of elevation.

Hydrological Setting

Forsythe Creek is a direct tributary to west fork of the Russian River, entering the river approximately 3 miles southeast of the project area. Historically, Forsythe Creek is a perennial stream; however, during very dry years, it may go dry during the summer months (California Department of Fish and

Game 1963). The watershed has a history of grazing and logging that dates back to the 1850s; it is likely that current stream processes and conditions are a result of these land uses. In the project area, Forsythe Creek summer flows may be only a few cubic feet per second during the later summer months when bridge construction would occur.

Soils

Two soil map units occur within the project area boundaries (Natural Resources Conservation Service 2012):

- **Talmage gravelly sandy loam, 0 to 2 percent slopes.** This soil type is associated with alluvial fans, floodplains, and stream channels. The land capability classification for Talmage gravelly sandy loam as a farmland is limited due to its being shallow and stony; very severe limitations that reduce the choice of plants or that require very careful management, or both.
- **Xerochrepts-Haploxeralfs-Argixerolls complex, 30 to 50 percent slopes.** This soil type is found on escarpments and terraces. Use of this soil complex for cultivation is severely limited due to its erosive nature, but it is suitable for use as pasture, rangeland, forestland, or wildlife habitat.

Geology

The *Geologic Map of California, Ukiah Sheet* indicates the geology of the project area and vicinity is comprised of Quaternary alluvium derived from sedimentary and meta-sedimentary rocks laid down during the recent (Holocene) era (California Department of Conservation 1960).

Vegetation Community Types

Vegetation community types were classified based on the descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Vegetation community types occurring within the project area include montane hardwood, montane riparian, riverine, and ruderal/barren.

Montane Hardwood

Montane hardwood vegetation occurs along Reeves Canyon Road in the southern part of the project area, bordering the montane riparian vegetation along Forsythe Creek. Black oak (*Quercus kelloggii*) and interior live oak (*Quercus wislizenii*) dominate the upper canopy. Pacific madrone (*Arbutus menziesii*) is also present to a small extent. Poison oak (*Toxicodendron diversilobum*) is the dominant shrub forming a dense understory. Subdominant shrubs include California buckeye (*Aesculus californica*), ocean spray (*Holodiscus discolor*), and manzanita (*Arctostaphylos manzanita* ssp. *manzanita*). Herbaceous plants are present along the edges of Reeves Canyon Road and in the more open areas containing manzanita.

Montane Riparian

Montane riparian vegetation occurs along the entire length of Forsythe Creek within the project area. Montane riparian vegetation is generally characterized by a dense, multi-layered canopy with a dense understory. The dominant canopy tree is white alder (*Alnus rhombifolia*); while arroyo willow (*Salix*

lasiolepis) and sandbar willow (*Salix exigua*) dominate the mid-story. Himalayan blackberry (*Rubus armeniacus*) provides the dominant understory of this vegetation community type within the project area. Subdominant trees and shrubs include coyote brush (*Baccharis pilularis*), Oregon ash (*Fraxinus latifolia*), California black oak (*Quercus kelloggii*), red willow (*Salix laevigata*), Oregon false golden aster (*Heterotheca oregona*), and California grape (*Vitis californica*).

Riverine

The riverine community type is present as the flowing channel of Forsythe Creek and gravel bars below the OHWM. The substrate is gravel, rock, and sand, and the channel is incised throughout the project area. There is a dense canopy of riparian vegetation adjacent to most of the riverine areas in the project area. There are also patches of riparian vegetation within the riverine community type.

Ruderal/Barren

Ruderal/barren community types within the project area are associated with Reeves Canyon Road and the road pull-out east of the bridge. Ruderal areas are dominated by non-native annual grasses and forbs including Italian thistle (*Carduus pycnocephalus*), slender wild oats (*Avena barbata*), mustard (*Brassica nigra*), rip gut brome (*Bromus diandrus*), fiddleneck (*Amsinckia lycopsoides*), and winter vetch (*Vicia villosa*). Barren areas, including the Reeves Canyon Road corridor, adjacent gravel shoulders, and parking areas are generally devoid of vegetation. Sparse opportunistic weedy species may be present within barren areas.

3.2 Environmental Impacts and Mitigation Measures

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
I. AESTHETICS — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) **No Impact.** There are no scenic areas or resources within the project area. The project consists of replacing the existing Reeves Canyon Road bridge and roadway approaches with similar structures and would be constructed in a manner consistent with the existing aesthetic.
- b) **Less-than-Significant Impact.** Reeves Canyon Road is not designated as a local scenic highway in the County's General Plan. There are no scenic resources or historic buildings in the project area. The project area is partly visible from U.S. Highway 101/State Route 20 as it passes by, approximately 0.2 mile northeast of the bridge. This section of State Route 20 is eligible for designation as a State Scenic Highway, although it has not yet been officially designated as such (California Department of Transportation 2011a). The removal of vegetation to allow for the new bridge alignment upstream of the existing bridge could make the project area more visible from the highway; however, the effect would not be inconsistent with the existing scenic quality of the project area and vicinity.
- c) **Less-than-Significant Impact.** The project consists of replacing the existing Reeves Canyon Road bridge and roadway approaches with similar structures. The project would be constructed in a manner consistent with the existing aesthetic. The project would not introduce any elements that would degrade the existing visual character or quality of the site or surrounding area.
- d) **No Impact.** Construction and operation of the project are not expected to result in increased glare in the project area and no lighting is proposed as part of the project.

Mitigation Measures

No project-specific mitigation is required under this subject.

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
II. AGRICULTURAL AND FOREST RESOURCES — 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) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) ***Less-than-Significant Impact.*** Lands surrounding the project area have been designated by the state as Important Farmland–Grazing Land (California Department of Conservation 2008b) and are zoned by the County as Rangeland and Floodplain (Mendocino County 2012). A majority of the project alignment would be located within the existing County ROW; however, the proposed realignment of the new bridge and roadway would require some permanent ROW acquisition of Grazing Land (0.37 acre), including a portion of the corral located north of Forsythe Creek. Most of the southern roadway approach to the bridge would be aligned through a large turnout adjacent to Reeves Canyon Road and the Forsythe Creek floodplain. Realignment of the bridge southwest of its current alignment is not practicable because of its proximity to Mill Creek (buffered by approximately 120 feet), which parallels the west side of Reeves Canyon Road north of the bridge. Construction of the project would not impact any cultivated lands.

- b) ***Less-than-Significant Impact.*** Lands surrounding the project area have also been designated by the state as Important Farmland–Grazing Land (California Department of Conservation 2008b) and are zoned by the County as Rangeland and Floodplain (Mendocino County 2012). Although the project would mostly be constructed within the existing road corridor ROW, some construction would extend outside the ROW and encroach onto agricultural lands. Project construction would require the County to acquire 0.37 acre of Grazing Land, including a portion of the corral located north of Forsythe Creek that would be converted to permanent ROW. The project would temporarily encroach on a parcel of land that is currently under a Williamson Act Contract—designated by the State as Williamson Act Non-Prime Agricultural Lands (California Department of Conservation 2008a). However, no Williamson Act lands would be permanently converted to a nonagricultural use as a result of project implementation. Approximately 0.09 acre of Williamson Act land would be temporarily impacted as a result of project construction. Adjacent lands would not be impacted and would remain under the existing Williamson Act contract. A Farmland Assessment Report (North State Resources 2013a) that includes a Farmland Conversion Impact Rating for Corridor Type Projects (NRCS-CPA-106) was prepared for the project. A preliminary land evaluation and corridor assessment criteria score of 64 (Total Site Assessment Points of a possible 260) indicates that the project would have minimal impact on prime farmland.
- c) ***No Impact.*** The project would not cause rezoning of forestland, timberland, or timberland zoned for timber production.
- d) ***No Impact.*** The project area does not include any forestland.
- e) ***No Impact.*** Other than the 0.37 acre of Grazing Land that would be converted to permanent ROW, the project would have no additional impact on farmland. Improvements to Reeves Canyon Road and the bridge would have no influence on growth in the Reeves Canyon Road vicinity. Parcels are zoned for 160-acre minimums to preserve the county’s open space and grazing land, and the area is not conducive to urban development primarily because of environmental factors such as topography.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a, b) **Less-than-Significant Impact.** Air pollution control will conform to Caltrans Standard Specifications, which state that the contractor shall comply with all applicable air pollution control rules, regulations, ordinances, and statutes.
- c) **Less than Significant with Mitigation Incorporated.** Mendocino County is currently a state non-attainment area for particulate matter, 10 micron or less (PM₁₀) (California Air Resources Board 2013). Construction activities associated with the project would result in a relatively minor net increase in PM₁₀. While the amount of PM₁₀ generated by the project would be minor, it would nevertheless be considered a significant impact because of the Mendocino County Air Quality Management District's (AQMD) current non-attainment status for PM₁₀. In addition to adhering to Caltrans Standard Specifications and Mendocino County AQMD's Particulate Matter Attainment Plan (Mendocino County Air Quality Management District 2005) for air quality, implementation of *Mitigation Measure #1—Air Quality Fugitive Dust Control* will reduce this impact to a less-than-significant level.
- d) **Less than Significant with Mitigation Incorporated.** A ranch residence is located approximately 500 feet north of the Reeves Canyon Road bridge and approximately 650 feet west of U.S. Highway 101/State Route 20. Although the volume of air pollutants generated by construction of the project would be minor and consistent with existing conditions, project activities will be implemented according to Caltrans' Standard Specifications and Mendocino County AQMD's Particulate Matter Attainment Plan (Mendocino County Air Quality Management District 2005) for air quality. *Mitigation Measure #1—Air Quality/Fugitive Dust and Emissions Controls* will be implemented to ensure this impact will remain at a less-than-significant level.
- e) **No Impact.** The project would not create any objectionable odors.

Mitigation Measures

Mitigation Measure #1—Air Quality/Fugitive Dust and Emissions Controls

The County shall include provisions in the construction bid documents that the contractor shall implement fugitive dust and emissions controls during construction activities. The fugitive dust and emissions controls shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- All earthmoving activities shall cease when sustained winds exceed 15 miles per hour.
- Pursuant to the California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.
- Any topsoil that is removed during construction shall be stored onsite in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.
- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.
- All unpaved surfaces, unless otherwise treated with suitable chemicals or oils, shall have a posted speed limit of 10 miles per hour.
- Construction vehicles shall minimize idling time and equipment shall be shut off when not in use pursuant to California Code of Regulations (Title 13, Division 3, Chapter 10 §2485).
- Construction equipment will be maintained in proper working conditions according to manufacturer's specifications. Equipment must be checked daily and determined to be in proper running condition before it is operated.

Timing/Implementation:	During construction
Enforcement:	Mendocino County AQMD
Monitoring:	County and/or its contractor

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) ***Less than Significant with Mitigation Incorporated.*** A Natural Environment Study (NES) report (North State Resources 2013c), which analyzes the project effects on biological resources, was submitted to Caltrans for final review and approval on September 19, 2013. Based on a review of habitat requirements and the findings of NSR's protocol-level botanical survey of the project area conducted on April 23 and June 18, 2012, no special-status plant species were found.

An onsite assessment of fish habitat within the project area was conducted on October 22, 2012; a survey of wildlife habitat was conducted on June 18, 2012 (North State Resources 2013b). Habitat for the following special-status fish and wildlife species was found within the project area:

- Central California Coast Distinct Population Segment (DPS) steelhead (*Onchorhynchus mykiss*) – Federally Threatened and Critical Habitat
- California Coastal Evolutionarily Significant Unit (ESU) Chinook salmon (*O. tshawytscha*) – Federally Threatened and Critical Habitat/Essential Fish Habitat

- Central California Coast ESU coho salmon (*O. kisutch*) – Federally Endangered and Critical Habitat/Essential Fish Habitat
- Northern red-legged frog (*Rana aurora aurora*) – Species of Special Concern
- Foothill yellow-legged frog (*Rana boylei*) – Species of Special Concern
- Western pond turtle (*Actinemys marmorata*) – Species of Special Concern
- Long-eared owl (*Asio otus*) – Species of Special Concern
- White-tailed kite (*Elanus leucurus*) – State Fully Protected
- Yellow warbler (*Dendroica petechia brewsteri*) – Species of Special Concern
- Yellow-breasted chat (*Icteria virens*) – Species of Special Concern
- Pallid bat (*Antrozous pallidus*) – Species of Special Concern
- Western red bat (*Lasiurus blossevillei*) – Species of Special Concern

Fish. A Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) (North State Resources 2013b) was submitted on February 13, 2013 to NMFS for review under Section 7 of the federal Endangered Species Act (ESA) to address potential impacts on federally listed fish species and essential fish habitat (EFH) for salmon. The BA/EFHA concluded that the proposed project is likely to adversely affect Central California Coast DPS steelhead and California Coastal ESU Chinook salmon and is not likely to adversely modify designated critical habitat for Central California Coast DPS steelhead, California Coastal ESU Chinook salmon, or Central California Coast ESU coho salmon. On May 28, 2013, NMFS issued a Biological Opinion that concurs with the findings of the BA/EFHA. However, even with the implementation of conservation and avoidance measures contained in the BA/EFHA, take of Central California Coast DPS steelhead or California Coastal ESU Chinook salmon would not be entirely avoidable; therefore, NMFS included an incidental take statement under the terms of sections 7(b)(f) and section 7(o)(2) of the ESA in its Biological Opinion (National Marine Fisheries Service 2013). Following is a discussion of anticipated project impacts on special-status fish:

Loss or Modification of Juvenile Rearing Habitat. The new bridge structure would not result in a permanent net loss or modification of juvenile Central California Coast DPS steelhead or California Coastal ESU Chinook salmon rearing habitat. The existing RSP and retaining walls associated with the existing bridge would be removed, thus eliminating physical structures that currently affect stream morphology and ultimately aquatic habitat in the project area.

Installation of the temporary stream diversion and platform would temporarily affect 85 feet of stream. Forsythe Creek, within the project area, primarily functions as spawning and migration habitat for steelhead and Chinook salmon. No highly suitable summertime juvenile rearing habitat occurs in the project area. Installation of the temporary work pad and diversion may directly impact some low-to-moderate quality juvenile steelhead and Chinook salmon rearing

habitat upstream of the bridge. Due to the small area and marginal quality of rearing habitat, the seasonal work window, and the limitation of construction to a single season, the temporary impact on marginal quality juvenile steelhead and Chinook salmon rearing habitat would be less than significant.

The proposed project would not convert a large expanse of natural stream bank to riprap. However, to sufficiently protect the new abutments against erosion and hydraulic deficiencies, additional RSP would be required. The RSP would be installed such that it would not be inundated during seasonal base flows, thus reducing adverse morphological and hydrologic effects, reducing the frequency of predation, and allowing for revegetation. The existing RSP would be removed. The limited and focused placement of RSP to protect abutments would not adversely affect or modify juvenile steelhead and Chinook salmon rearing habitat in the project area.

Loss of Spawning Habitat. Construction of the new bridge and demolition of the existing bridge would not result in a temporary or permanent loss of steelhead or Chinook salmon spawning habitat in the project area. While suitable spawning habitat occurs within the project area, seasonal work windows are designed to avoid the spawning period of these species. Installation of the temporary work pad would disturb or otherwise cover up approximately 140 square feet of marginal quality spawning habitat in the project area. Upon completion of instream work requiring the use of the work pad, the work pad and culverts would be carefully removed from the stream—from downstream to upstream—and a thin veneer of the underlying fish rock (suitable sized spawning gravels) would be left in place to minimize impacts on channel substrates.

Loss of Riparian Habitat. Mature trees along the riverbank within the construction area would be removed to accommodate the new bridge alignment and allow for construction access to the work pad. Work activities such as vehicle parking and placement of storage containers on the upland terrace may temporarily affect the low growing grasses and forbs in the construction area, but no permanent impacts on this habitat would occur.

Increased Turbidity and Suspended Sediment. In the project area, silt and sand in the riverbanks and river bottom would be disturbed during installation of the work platform and RSP, construction of the new bridge, and removal of the existing bridge. These physical disturbances could mobilize silt and sand for a short distance downstream; however, the effect is expected to be localized and temporary due to the reduced flow expected during the summer/autumn construction period. Best management practices (BMP) will be implemented to minimize the potential for mobilization of disturbed stream banks post instream construction. Any juvenile steelhead rearing in the project area during the construction period could be temporarily displaced or their social behavior could be temporarily disrupted by an increase in turbidity. Behavioral disruption, even temporarily, could result in some increased vulnerability to competitive interactions or predation for juvenile salmonids (Berg and Northcote 1985). Suitable spawning habitat does occur in and immediately downstream of the project area. Project construction would be timed to avoid the spawning and incubation period of steelhead; therefore, there would be no impact on spawning adults and incubating alevins.

Impaired Fish Passage During Construction. Since steelhead and Chinook salmon occur as one or more life stages in the project area throughout the year, construction could not be scheduled to entirely avoid the migration, rearing, and spawning periods. Approximately 140 feet of Forsythe Creek would be conveyed through HDPE culverts under the temporary gravel work platform. Localized and temporary alteration of hydraulic conditions could affect fish behavior and migration in or immediately above or below the instream construction site. However, it is expected that with the receding hydrograph and often intermittent stream conditions in drier years, little movement would occur during the instream construction period. To ensure that hydraulic conditions are suitable and the temporary work platform would not impede the movement of aquatic organisms, the culverts have been designed and would be installed according to NMFS' *Guidelines for Salmonid Passage at Stream Crossings* (National Marine Fisheries Service 2001) and *Mitigation Measure #2 – Special-Status Fish*.

Potential Spill of Hazardous Materials. Construction activities typically include the refueling of construction equipment onsite. As a result, minor fuel and oil spills could occur and there would be a risk of larger releases. Without rapid containment and clean up, these materials could be toxic, depending on the location of the spill in proximity to surface water features including Forsythe Creek. Oils, fuels, and other contaminants could have deleterious effects on all salmonid life stages within close proximity to construction activities. Incubating fry would be at greatest risk due to their limited mobility and the physiological kinetics of toxicant metabolism; however, these fry would not be present during the proposed construction period. Juvenile and adult fish exhibit a greater level of mobility and thus possess a greater ability to avoid potentially hazardous materials provided there is sufficient flow and fish passage to allow fish to move from the area. Due to the lack of sufficient complex juvenile rearing habitat in the project area, the potential for localized impacts on juvenile steelhead or Chinook salmon resulting from the spill of hazardous materials is quite small. Further, most work would occur upon the gravel work pad and in upland habitats, thereby reducing the potential for direct releases to surface water features.

Injury and Mortality of Juvenile Salmonids During Construction. Riverine habitat in the project area is suitable for rearing juvenile steelhead and Chinook salmon, but due to limited pool habitat the probability of juvenile steelhead or Chinook salmon being present during the construction period is small. Based on the life histories of juvenile steelhead and Chinook salmon in Forsythe Creek, the potential exists for these species to occur in the project area during the construction period, regardless of the local habitat conditions. The proposed instream construction activities associated with installation of the temporary work platform, including removal of fish from the work pad area by a qualified fishery biologist, could result in the entrapment, direct injury, or death of juvenile fish.

In its Biological Opinion (National Marine Fisheries Services 2013), NMFS conservatively estimated that fewer than 20 juvenile steelhead and five juvenile Chinook salmon are anticipated to be present in the project area during dewatering activities. Based on the low mortality rates for typical relocation efforts, NMFS anticipated no more than four percent of the juvenile salmonids present in the areas to be dewatered would be harmed or killed during capture, relocation, and dewatering efforts. NMFS determined that this level of anticipated take is not likely to jeopardize steelhead or Chinook salmon in Forsythe Creek. All non-discretionary terms and conditions that

are part of the incidental take statement, are included in the measures outlined in *Mitigation Measure #2 – Special-Status Fish*.

Mitigation Measure #2 – Special-Status Fish, Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat, and Mitigation Measure #6 – Prevention of Spread of Invasive Species will be used to reduce project impacts on fish and the aquatic environment to a less-than-significant level.

Northern red-legged frog and foothill yellow-legged frog. Field assessments did not detect the presence of northern red-legged frog or foothill yellow-legged frog in the project area. There is a low potential for northern red-legged frog to occur within the project area along the low-flow channel; however, the scattered clumps of emergent vegetation that occur provide suitable egg laying habitat for this species. The California Natural Diversity Data Base (CNDDB) contains a total of five occurrence records for the northern red-legged frog in Mendocino County, and these are all located only in the coastal watersheds. The rocky, low-flow channel of Forsythe Creek within the project area provides suitable habitat for foothill yellow-legged frog. There are four CNDDB occurrences of foothill yellow-legged frog within six miles of the project area, along the Russian River and tributaries northwest of Ukiah.

Because habitat is present within the project area, construction activities have the potential to affect either species of frog. *Mitigation Measure #7 – Frogs* will reduce construction impact to a less-than-significant level. These species may also be affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Mitigation measures #3 and #4 will be used to maintain water quality. In addition, loss of riverine and riparian habitat may have a negative impact on these species; therefore, Mitigation Measure #5 will be used to reduce this impact to a less-than-significant level.

Western pond turtle. Western pond turtle was not observed during field assessments conducted for the project; however, Forsythe Creek, in the project area provides habitat for this species (North State Resources 2013c). There are two recorded occurrences of western pond turtle within 6 miles of the project area. Although unlikely, construction related impacts, especially in-channel work, could result in an adverse effect via direct loss (e.g., due to operation of equipment in or adjacent to the river channel when flowing or standing water is present). The potential for direct loss would occur only during project construction. *Mitigation Measure #8 – Western Pond Turtle* will be used to reduce any impacts on turtles to a less-than-significant level. This species may also be affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Mitigation measures #3 and #4 will be used to maintain water quality. In addition, loss of riverine and riparian habitat may have a negative impact on this species; therefore, Mitigation Measure #5 will be used to reduce this impact to a less-than-significant level.

Long-eared owl and white-tailed kite. Neither long-eared owl nor white-tailed kite were observed during the field assessments conducted for the project; however, riparian vegetation along Forsythe Creek provides nesting habitat for both of these species (North State Resources

2013c). Owls and kites may nest in or adjacent to the project area. Construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The project may also result in a small, temporary reduction of foraging or roosting habitat for these species. However, due to the regional abundance of similar habitats, temporary habitat loss is not expected to result in an impact on either species. *Mitigation Measure #9 – Raptors* will be used to reduce any impacts on owls and kites to a less-than-significant level.

Yellow warbler and yellow-breasted chat. Neither yellow warbler nor yellow-breasted chat was observed during the field assessments conducted for the project; however, the riparian vegetation along Forsythe Creek provides breeding habitat for both species (North State Resources 2013c). These migratory bird species may nest in or adjacent to the project area. Construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The proposed project may also result in a small, temporary reduction of foraging or roosting habitat for migratory bird species. However, due to the regional abundance of similar habitats, temporary habitat loss is not expected to result in an impact on migratory birds. *Mitigation Measure #10 – Migratory Birds* will be used to reduce any impacts on yellow warbler and yellow-breasted chat to a less-than-significant level.

Pallid bat and western red bat. Neither pallid bat nor western red bat was observed during the field assessments conducted for the project (North State Resources 2013c). The existing bridge does not have any suitable roosting crevices; however, the riparian vegetation along Forsythe Creek may provide suitable night roosting and foraging habitat for pallid bat and western red bat. The closest recorded occurrence of either species is for pallid bat; a 1947 occurrence recorded along Cold Creek about 8 miles east of the project area. Given the absence of mines, caves, rock crevices, and large snags, the project area is not anticipated to provide suitable breeding habitat (e.g., maternity roosts) for pallid bat. Given the absence of mature stands of cottonwood and sycamore and the rarity of the species in California, the project area is not anticipated to provide suitable breeding habitat for western red bat. Project implementation is unlikely to have an impact on foraging bats due to the abundance of suitable foraging habitat in the region and the temporary nature of impacts on riparian vegetation within the project area that would occur as a result of project construction. Therefore, the proposed project is not anticipated to result in significant adverse impacts on these species. However, *Mitigation Measure #11 – Bats* will be used to reduce any impacts on pallid bats or western red bats to a less-than-significant level.

- b) ***Less than Significant with Mitigation Incorporated.*** Riparian vegetation (montane riparian) is considered a sensitive natural community by the U.S. Army Corps of Engineers (Corps), CDFW, and the County, and is present in the project area. The project would result in direct permanent impacts on approximately 0.007 acre of montane riparian vegetation and 0.001 acre of intermittent stream (riverine habitat). The proposed project would also result in temporary impacts on approximately 0.045 acre of montane riparian vegetation, 0.047 acre of montane hardwood vegetation, and 0.048 acre (91 linear feet) of riverine habitat as a result of bridge construction, including work platforms and stream diversions, and bridge demolition activities. *Mitigation Measure #12 – Sensitive Natural Communities* will be used to reduce impacts on riparian vegetation to a less-than-significant level.

- c) ***Less than Significant with Mitigation Incorporated.*** The project would result in permanent and temporary impacts on wetland features under the jurisdiction of the Corps, pursuant to Section 404 of the Clean Water Act. The project would result in the permanent discharge of fill into 0.005 acre of riparian wetland and 0.001 acre (24 linear feet) of intermittent stream. Although the construction of two new pier walls would result in direct permanent impacts on up to 0.006 acre of waters of the United States, the project would have no net permanent loss of waters due to the removal of the two existing piers. The two existing pier walls are within the intermittent stream flow channel, and their removal will result in an increase of 0.007 acre of intermittent stream. Temporary impacts would occur in 0.030 acre of riparian wetland and 0.048 acre (91 linear feet) of intermittent stream. Mitigation Measure #5 and *Mitigation Measure #13 – Waters of the United States* will be used to reduce any potential impacts to waters to a less-than-significant level. Mitigation measures #3 and #4 will be used to maintain water quality.
- d) ***Less than Significant with Mitigation Incorporated.*** The project area does not encompass any wildlife nursery sites. However, replacement of the bridge could result in the temporary disruption of fish moving up and downstream. Since steelhead and Chinook salmon occur as one or more life stages in the project area throughout the year, construction could not be scheduled to entirely avoid the migration, rearing, and spawning periods. Approximately 140 feet of Forsythe Creek would be conveyed through HDPE culverts under the temporary gravel work platform. Localized and temporary alteration of hydraulic conditions could affect fish behavior and migration in or immediately above or below the instream construction site. However, it is expected that with the receding hydrograph and stream conditions in drier years, little movement would occur during the instream construction period. To ensure that hydraulic conditions are suitable and the temporary work platform would not impede the movement of aquatic organisms, the culverts have been designed and would be installed according to NMFS' *Guidelines for Salmonid Passage at Stream Crossings* (National Marine Fisheries Service 2001). Mitigation Measure #2 will be used to reduce impacts on fish passage to a less-than-significant level.
- e) ***Less than Significant with Mitigation Incorporated.*** The proposed project will comply with the goals and objectives described in the County's General Plan (County of Mendocino 2009), including measures for water quality and biological resources protection. The proposed project will also comply with the County's oak tree retention/replacement provisions and riparian vegetation provisions specified in the General Plan, which include adhering to the County's grading ordinance and protecting and retaining natural vegetation to the extent possible. Construction of the new bridge would result in the loss of riparian vegetation, which may be inconsistent with riparian vegetation protection guidelines in the Land Use Element in the General Plan (County of Mendocino 2009). Mitigation Measure #5 will be used to reduce any potential impacts on vegetation to a less-than-significant level.
- f) ***No Impact.*** Currently, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved habitat conservation plans that cover the project area.

Mitigation Measures

Mitigation Measure #2 – Special-Status Fish

- Prior to October 15, the temporary culverts, pipe, and work platforms shall be removed from the channel. The fish rock base shall be excavated down to the point at which there is a thin veneer remaining on the existing channel bed. Upon removal of the culverts and fish rock, hand crews may redistribute the remaining fish rock such that it does not become a barrier to the free passage of water or the movement of fish and aquatic animals. It shall not impede, or tend to impede, the passage of fish at any time, pursuant to Fish and Game Code Section 5901.
- The crossings shall not change the flow characteristics (i.e., velocity, depth, width) of the water as it flows through the project area. No ponding of flow shall occur above the pipe and culverts unless this type of ponding is typical of the area.
- Culverts shall be maintained and kept open while in place. Any ponding shall be corrected immediately. The County is responsible for such maintenance as long as the culvert remains in the stream.
- Any structure/culvert placed within a stream where fish do/may occur shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. For this project, this equates to designing the culverts to meet guidelines outlined in NMFS (2001).
- Impacts to herbaceous cover will be offset by reseeding any unvegetated and impacted areas with a suitable seed mixture post construction.
- All of the interstitial spaces of the RSP will be filled with well-graded soil to allow for revegetation.
- Any construction equipment operating upon work pads or adjacent to Forsythe Creek shall be inspected daily for leaks. External oil, grease, and mud shall be removed from equipment and disposed of properly. Spill containment booms shall be maintained onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks shall maintain adequate spill containment materials at all times.
- The contractor shall develop and implement site-specific BMPs, a water pollution control plan, and emergency spill control plan. The contractor shall be responsible for immediate containment and removal of any toxins released.

NMFS developed a series of nondiscretionary terms and conditions in order to further minimize take of Central California Coast DPS steelhead and California Coastal ESU Chinook salmon (National Marine Fisheries Service 2013). The following are additional measures to be

implemented per NMFS' Biological Opinion recommendations that are not already addressed above:

- Caltrans or the County shall retain a qualified biologist with expertise in the areas of anadromous salmonid biology, including handling, collecting, and relocating salmonids; salmonid/habitat relationships; and biological monitoring of salmonids. Caltrans shall ensure that all biologists working on this project be qualified to conduct fish collections in a manner which minimizes all potential risks to Central California Coast DPS steelhead and California Coastal ESU Chinook salmon. Electrofishing, if used, shall be performed by a qualified biologist and conducted according to the *NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act* [Available at: http://swr.nmfs.noaa.gov/sr/Electrofishing_Guidelines.pdf].
- A qualified fisheries biologist shall monitor the construction site during placement and removal of channel diversions and coffer dams to ensure that any harm or loss of salmonids is minimized and documented. The biologist shall be on site during fish relocation activities to ensure that all ESA-listed salmonids are captured, handled, and relocated safely. The biologist shall notify NMFS at least one week prior to capture activities in order to provide opportunity for NMFS staff to observe the activities.
- Captured fish shall be handled with extreme care and kept in water to the maximum extent possible during relocation activities. All captured fish shall be kept in cool, shaded, aerated water, protected from excessive noise, jostling, or overcrowding any time they are not in the stream and fish shall not be removed from this water except when release. To avoid predation, the biologist shall have at least two containers, and segregate young-of-year fish from large age-classes and other potential aquatic predators. Captured salmonids will be relocated, as soon as possible, to a suitable instream location in which habitat conditions are present and to allow for survival of transported fish and fish already present.
- If any salmonids are found dead or injured, the biologist shall contact NMFS North Central Coast Office. All salmonid mortalities shall be retained, placed in a sealable plastic bag, labeled with the date and location of collection, fork length, and frozen as soon as possible. Frozen samples shall be retained by the biologist until specific instructions are provided by NMFS. The biologist may not transfer biological samples to anyone other than the NMFS North Central Coast Office without obtaining prior written approval from the North Central Coast Office, Supervisor of the Protected Resources Division. Any such transfer will be subject to such conditions as NMFS deems appropriate.
- All cofferdams, pumps, pipes and sheet plastic will be removed from the stream upon project completion; any clean native gravel used for the cofferdams will be left in the channel to augment available spawning habitat.
- All pumps used to divert live stream flow, outside the dewatered work area, will be screened and maintained throughout the construction period to comply with NMFS' *Fish Screening Criteria for Anadromous Salmonids*. [Available at: <http://swr.nmfs.noaa.gov/hcd/fishscrn.pdf>].

- County shall provide a report documenting the effects of fish relocation and dewatering to Caltrans no later than January 1, following completion of the construction. Caltrans shall forward this report to NMFS by no later than January 15, following completion of the construction. Contents required for the report are specified in the Biological Opinion and include specific information on the results of fish relocation and turbidity monitoring.

Timing/Implementation:	During and after construction
Enforcement:	NMFS, CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #3—Erosion and Sediment Control

- Erosion control measures will be implemented during project construction. These measures will conform to the provisions in Section 20-2 and 20-3 of the Caltrans Standard Specifications and the special provisions included in the project contract. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that includes BMPs to be used at the project site.
- Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:
 - To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-channel construction will be conducted from June 15-October 15 and upland construction will likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein and for the protection of other sensitive or special-status plant or animal species. For upland construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.
 - Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that do not need to be disturbed.
 - Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.
 - Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading

activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.
- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.
- Any new or previously excavated gravel material placed in the channel shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher (excluding such materials as soil in the RSP to allow for riparian planting).

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #4—Prevention of Accidental Spills of Pollutants

Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic habitat resources in the project area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials shall be stored 50 feet away from surface water features.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Forsythe Creek or within an adequate fueling containment area.
- Equipment operating within the OHWM shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #5—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts on riparian habitat in the action area:

- The width of the construction disturbance zone within the riparian habitat shall be minimized through careful pre-construction planning.
- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts to riparian vegetation outside of the construction area are minimized.
- Riparian habitat areas temporarily disturbed shall be replanted using riparian species that have been recorded along Forsythe Creek in the project area, including willow, white alder), and Oregon ash.
- Onsite creation/restoration shall occur in areas that have been disturbed during project construction and within interstitial spaces of the RSP. The amount of habitat created/restored shall be at a 3:1 ratio of new plantings per large (6 inch diameter at breast height) woody plants removed. This replanting ratio will help ensure successful establishment of at least one vigorous plant for each plant removed to accommodate the project.
- Plant spacing intervals will be determined as appropriate based on site conditions following construction.
- Non-native tree species removed during project construction will be replaced with native riparian species.
- Revegetation monitoring will be initiated immediately following completion of the planting, and extend for a period of up to five years. Monitoring surveys will consist of a general site walkover evaluating the survival and health of riparian plantings, signs of drought stress, weed or herbivory problems, and the presence or trash or other debris. Corrective measures including replacement of revegetation plantings, application of supplemental irrigation, hand removal of non-native weeds, replacement or removal of protective plant covers, and the removal of trash and debris will be implemented as necessary. Within the mitigation area, less than 50 percent total mortality of planted species (including container stock and hardwood cuttings) will be considered a success. Greater than 50 percent mortality of planted species will be considered acceptable if “volunteer” native species provide complete vegetation coverage in the mitigation area. If monitoring results indicate that revegetation efforts are not meeting established success criteria, corrective measures would be implemented.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County

Mitigation Measure #6 – Prevention of Spread of Invasive Species

- All equipment used for off-road construction activities will be weed-free prior to entering the action area.
- If project implementation calls for mulches or fill, they will be weed free.
- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.
- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #7 - Frogs

- Because northern red-legged and foothill yellow-legged frogs may move into and out of the project area at any time, a preconstruction survey for these species is necessary to confirm their status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project area for these frogs. The survey shall be conducted a maximum of one week prior to construction. If one of these frogs is found within a construction impact zone, the biologist shall move it to a safe location within similar habitat. The County will inform Caltrans when such an activity occurs.
- If a northern red-legged or foothill yellow-legged frog is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the frog will not be harmed. Any frogs encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed frogs shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #8—Western Pond Turtle

- Because turtles may move into and out of the project site at any time, a preconstruction survey for the species is necessary to confirm its status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project site for pond turtles and their nests. The survey shall be conducted a maximum of one week prior to construction. If a pond turtle is found within a construction impact zone, the biologist shall move it to a safe location within similar habitat. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be

excavated and re-buried at a suitable location outside of the construction impact zone by a qualified biologist. The County will inform Caltrans when such an activity occurs.

- If a western pond turtle is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the turtle will not be harmed. Any turtles encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed turtles shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #9—Raptors

- Preconstruction surveys for nesting raptors shall be conducted by a qualified biologist within the project area and a 250-foot buffer around the project area to ensure that no nests will be disturbed during project implementation. At least one survey should be conducted no more than 15 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees immediately adjacent to the impact areas for raptor nests. If an active raptor nest is found close enough (i.e., within 250 feet) to the construction area to be disturbed by these activities, the biologist (in consultation with the CDFW) shall determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.
- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed as a result of the project shall be removed before the onset of the nesting season (February 15 through September 30), if practicable. This will discourage nesting in areas that would be directly impacted by the proposed project and substantially decrease the likelihood of direct impacts.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #10—Migratory Birds

- Grading and other construction activities shall be scheduled to avoid the nesting season to the extent possible. The nesting season for migratory bird species that occur in the project vicinity extends from March through August. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, the following mitigations shall be implemented:
 - A qualified biologist shall conduct a minimum of one preconstruction survey for yellow warblers and yellow-breasted chats within the project area and a 250-foot buffer around the project area. The survey should be conducted no more than 15 days prior to the initiation of construction in any given area. The preconstruction survey should be used to

ensure that no nests of these species within or immediately adjacent to the project area would be disturbed during project implementation. If an active nest is found, a qualified biologist should determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

- If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #11—Bats

- To the extent practicable, the removal of any large trees shall occur outside of the breeding season of pallid bat and western red bat. For the purposes of implementation of this measure, the breeding season is considered to be from April 1 through August 15th.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #12 – Sensitive Natural Communities

- The project shall be designed and constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. Staging areas and construction access routes shall avoid encroachment into riparian vegetation where practicable and minimize encroachment where complete avoidance is not practicable. Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing shall be prohibited during construction. The exclusionary fencing shall be inspected and maintained on a regular basis throughout project construction.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #13 – Waters of the United States

- To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to RWQCB jurisdiction). Being that the proposed project will have temporary impacts on waters of the United States, the following measures shall be implemented to avoid or minimize the potential for these project-related impacts:

- To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.
- Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County.
- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.
- Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.
- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion.
- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.
- Any new or previously excavated gravel material placed in the channel shall be washed at least once and have a cleanliness value of 85 or higher based on Caltrans Test No. 227.
- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials shall be stored 50 feet away from surface water features.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from the Forsythe Creek or within an adequate fueling containment area.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a) **No Impact.** The Reeves Canyon Road Over Forsythe Creek Bridge (10C-0077) Replacement Project, Mendocino County, California, Archaeological Survey Report (North State Resources 2013d) states that no historic properties were identified in the project area that meet the significance criteria of the National Register of Historic Places. The bridge (10C-0077) is listed as a Category 5 bridge by Caltrans and as such does not meet the criteria for listing on the National Register of Historic Places.
- b) **Less than Significant with Mitigation Incorporated.** The Reeves Canyon Road Over Forsythe Creek Bridge (10C-0077) Replacement Project, Mendocino County, California, Archaeological Survey Report (North State Resources 2013d) states that there is the potential for prehistoric resources to be found in the project area and vicinity. In addition, the project area is situated adjacent to two perennial watercourses (Forsythe Creek and Mill Creek), on a well-drained landform that likely would have been suitable for early Native American occupation. The presence of documented prehistoric-era resources in the general vicinity of the project area suggests there is a potential for presently unrecorded resources to be encountered during ground-disturbing activities associated with project construction. An environmentally sensitive area will be established to protect known resource, which is located adjacent to but outside of the area of direct impact. (Due to the confidential nature of cultural resources, specifics of the environmentally sensitive area are addressed in the confidential Environmentally Sensitive Area Action Plan (available to qualified personnel upon request). *Mitigation Measure #14 – Cultural Resources* will be used to reduce any potential impacts on prehistoric resources to a less-than-significant level.
- c) **No Impact.** The project site is not known to support any unique paleontological resources or unique geologic features. Soil profiles and geologic map for the project area suggest that alluvial and weathering processes have shaped the region for a considerable period of time. Soils in the project area are derived from the weathering processes on the sedimentary rock laid down millions of years ago. Soils found in terraces along stream channels have considerable depths and consequently any archaeological resources are likely buried, becoming visible only in cut banks or on scoured ground surfaces.

- d) ***Less than Significant with Mitigation Incorporated.*** Although no impacts on known cultural resources are anticipated, currently undetected cultural resources or evidence of human remains could be exposed during project excavation activities. This would be a significant impact. *Mitigation Measure #14 – Cultural Resources* and *Mitigation Measure #15 – Human Remains* will be used to reduce any potential impacts to cultural resources to a less-than-significant level.

Mitigation Measures

Mitigation Measure #14—Cultural Resources

- In the event archaeological deposits—other than those determined to lack eligibility for listing in the National Register of Historic Places—are discovered during project activities, all work in the immediate vicinity of the discovery shall be stopped immediately and the Mendocino County Department of Transportation shall be notified. An archaeologist meeting the Secretary of Interior’s Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the find and recommend appropriate conservation measures. The conservation measures shall be implemented prior to re-initiation of activities in the immediate vicinity of the discovery.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

Mitigation Measure #15—Human Remains

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Mendocino County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall contact the Native American Heritage Commission. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the Native American Heritage Commission, as appropriate.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VI. GEOLOGY AND SOILS — Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) i, ii) **Less-than-Significant Impact.** Although the project area is not located within an Alquist-Priolo Earthquake Fault Zone, it is located in a high seismic hazard area within a major fault zone. The Maacama Fault Zone strikes roughly northwest of the project area (Taber Consultants 2012). This fault zone exhibits right-lateral displacement, ruptures the surface, and is prone to local fault creep. The closest mapped Maacama Fault segments range from 1,500 to 4,000-feet east/northeast of the project area (Taber Consultants 2012). Fault rupture hazard can be considered moderate (Taber Consultants 2012). To ensure that potential seismically induced hazards do not affect the replacement bridge, Caltrans seismic design parameters, including staged increases in spectral acceleration, are incorporated into the project design.
- iii) **Less-than-Significant Impact.** Liquefaction issues may be present at the site due to high potential ground accelerations and the presence of saturated granular alluvial material. Groundwater elevations are likely to match the water elevation in the channel. However, the geotechnical study prepared for the project concluded that stable ground capable of providing foundation support for the bridge is present and bearing materials are significantly below groundwater elevation (Taber Consultants 2012).

- iv) ***Less-than-Significant Impact.*** Although landslides are not known to occur in the project vicinity (Taber Consultants 2012) there is evidence of slides in the surrounding area. Regional maps suggest that the Forsythe Creek channel alignment has been affected in the past by a massive landslide that included the stretch of U.S. Highway 101/State Route 20 above the Forsythe Creek channel (Taber Consultants 2012). Springs are believed to contribute to the unstable hillslopes near the project area. U.S. Highway 101/State Route 20 above Forsythe Creek and the project area shows signs of frequent patching and indications of slide repair were noted during preparation of the project's Preliminary Geotechnical Report (Taber Consultants 2012). However, the geotechnical study prepared for the project found relatively level grades on both sides of the existing bridge. There were no apparent landslide features observed on the hillslope located about 500± feet east of the project area or in the channel or creek banks immediately adjacent to the bridge.
- b) ***Less than Significant with Mitigation Incorporated.*** The potential for severe erosion in the project area is low in the floodplain (Taber Consultants 2012), but is severe in the adjacent uplands (Natural Resources Conservation Service 2012). Similarly, soils in the floodplain, including those beneath the bridge and both roadway approaches are well-suited to the mechanical site preparation activities that would occur under the project (Natural Resources Conservation Service 2012). Soils in adjacent uplands are unsuited to mechanical site preparation. Ground-disturbing construction activities would expose soils and make them susceptible to erosion in the event of rain; however, once soils are paved or overlain with RSP, the potential for erosion would be significantly reduced. Mitigation Measure #3 has been incorporated into the project to minimize erosion pre- and post-construction, and would reduce this impact to a less-than-significant level.
- c, d) ***Less-than-Significant Impact.*** The project area is underlain by sedimentary deposits and a mélange of metamorphic rock considered capable of supporting heavy, concentrated pile foundation loads (Taber Consultants 2012). With the exception of adjacent uplands, soils in the project area are generally stable and well-suited to mechanical site preparation activities (Natural Resources Conservation Service 2012, Taber Consultants 2012). Onsite soils are not expansive (Natural Resources Conservation Service 2012) and have a low shrink-swell potential. Construction of footings would be consistent with Caltrans Design Specifications.
- e) ***No Impact.*** The project does not involve septic or wastewater systems.

Mitigation Measures

Implement *Mitigation Measure #3 - Erosion and Sediment Control* to prevent degradation of water quality.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS — Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) ***Less than Significant with Mitigation Incorporated.*** Construction of the proposed bridge replacement project would generate greenhouse gas (GHG) emissions. In order to determine the significance of the impact, a “carbon footprint” was estimated based on the proposed project’s generation of GHG emissions, primarily carbon dioxide (CO₂). Online calculator tools¹ specifically developed to estimate GHG emissions resulting from construction projects were used to generate an estimate of the carbon footprint for the proposed project. For purposes of the proposed project, the following constants for combustible fuel, area of vegetation disturbance, and project duration were used:

- an average of 300 gallons per day of diesel fuel would be used by heavy construction equipment²;
- onsite, mobile construction equipment³ would travel an average of approximately 5 miles per day as the vehicles work throughout the construction site;
- offsite construction equipment, including worker’s personal vehicles used to commute to the construction site (assuming five (5) personal diesel pick-up roundtrips) and equipment/materials haul trucks (assuming five (5) heavy duty diesel truck roundtrips) from Ukiah (14 miles roundtrip) would travel a total of approximately 140 miles per day;
- onsite miscellaneous combustion engine equipment, including generators would operate 8 hours per day;
- approximately 0.017 acre of vegetation (including 0.007 acre of montane riparian, 0.001 acre of riverine, and 0.009 acre of ruderal and barren areas) would be permanently disturbed at the site as a result of excavation and grading activities; and
- project construction would require approximately 120 days to complete.

¹ The mobile combustion CO₂ Emissions Calculation Tool was used to calculate GHG emissions for combustible fuel (Greenhouse Gas Protocol Initiative 2013), and the Construction Carbon Calculator (Build Carbon Neutral 2013) was used to calculate GHG emissions for vegetation loss.

² The amount of fuel used by the project is based on operating three pieces of heavy equipment at any given time (e.g., a grader, an excavator, a large haul/dump truck, and crane) that each have an average fuel consumption of 100 gallons per day.

Based on the above values, the proposed project would generate approximately 0.01 metric tons of GHG emissions (primarily CO₂) from construction equipment and worker vehicles during project construction. The volume of vegetation that would be removed as a result of project implementation would generate less than 16-metric tons of CO₂ emissions as a result of its absence (projected over approximately 30 years). Revegetation included in the installation of the RSP was included in the calculation and would act to create a net offset of CO₂ emissions of over a five to ten year period. Upon completion of the new bridge and roadway approaches, there would be no change from the existing volume of GHG emissions generated by vehicle use of Reeves Canyon Road.

While the project's GHG emissions would be measurable, they would not necessarily be significant and would be limited to the project construction period. Plantings of riparian trees and shrubs in the interstices of the RSP to replace those removed as a result of the project (having a greater than 6 inch dbh) would ultimately offset almost twice as much CO₂ as would be generated by project construction. Measures included in *Mitigation Measure #16 – Greenhouse Gas Emissions* have been incorporated into the project design and/or would be used during construction to ensure that project related impacts would remain less than significant (California Attorney General's Office 2010).

- b) ***Less-than-Significant Impact.*** The Mendocino County AQMD has not adopted a plan, policy, or regulation for reducing GHG emissions (Mendocino County Air Quality Management District 2013). However, the State of California has adopted several regulations related to GHG emissions reduction. These include efforts to reduce tailpipe emissions and diesel exhaust produced by fuel-combustion engines. Project operations would adhere to statewide efforts aimed at minimizing GHG emissions.

Mitigation Measures

Mitigation Measure #16–Greenhouse Gas Emissions

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.
- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.
- Protect existing trees to the extent possible and encourage the planting of new trees.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS —				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a) ***Less than Significant with Mitigation Incorporated.*** Project construction and operation would not routinely generate any hazardous materials. Project operation would not involve the use or storage of any hazardous materials. Although construction would not generate any hazardous materials, a potential hazard to the public and the environment would be posed by the use of diesel or gasoline powered construction equipment (trucks, excavators, etc.) and lubricants such as oil and hydraulic fluids. The potential for such a hazard would be temporary and mitigable since equipment would be routinely maintained and inspected to avoid leaks, and is similar to vehicles operating on nearby roads. Best management practices described in *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* will be used to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) on vegetation and aquatic habitat resources within the project area. Best management practices included in Mitigation Measure #4 will be provided in the project design construction specifications. In the

event of an accidental spill, implementation of this measure will reduce the potential hazard to the public and the environment to a less-than-significant level.

- b) ***Less than Significant with Mitigation Incorporated.*** No hazardous materials are currently stored, or proposed for use or storage, in the project area. The bridge does not appear to contain asbestos (Taber Consultants 2013). The potential exists for the bridge to contain lead-based paint. The paint appears to be in generally good condition with no peeling or bubbling, with rusted areas limited to scratches or impacts to the paint; however, because of the age of the bridge the paint on its underside could contain concentrations of lead above the regulatory threshold for hazardous materials (Taber Consultants 2013). A lead paint assessment will be performed prior to bridge removal. If lead-based paint is found in the samples taken from the bridge, painted surfaces will be disposed of in accordance with Caltrans Standard Special Provisions for removal of lead paint (Provision 14-11.08, Disturbance of Existing Paint Systems on Bridges) and *Mitigation Measure #17– Lead-based Paint* will be implemented.

Taber Consultants (2013) identified a recognized environmental condition with respect to the timber used on the bridge. The timber deck, vertical posts and railing on the bridge are no longer constructed of redwood as indicated on the as-built plans, but have been replaced with chemically treated wood. As-built plans indicate that the timber piles used to build the wood bulkhead walls were constructed using treated wood. When chemically treated wood components are removed the debris is defined as hazardous waste due to the chemicals used to treat the wood. Measures included in *Mitigation Measure #18 – Treated Wood Waste* have been incorporated into the project design and will be used during construction to ensure that project-related impacts would remain less than significant.

- c) ***No Impact.*** The nearest school (Deep Valley Christian Preschool) is located approximately 2 miles southeast of the project area. The project would not pose a hazard to a school.
- d) ***No Impact.*** A search of the State Department of Toxic Substances Control (DTSC) EnviroStar database (California Department of Toxic Substances Control 2013) and the State Regional Water Quality Control Board's GeoTracker database (State Water Resources Control Board 2013) was conducted. There is no record of any gas stations, auto wrecking yards, landfills, or storage tanks within the project area. The project area is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e, f) ***No Impact.*** The project is not located near any public or private airstrip.
- g) ***Less-than-Significant Impact.*** During construction of the replacement bridge, the existing bridge would remain open to allow two-way vehicular access through the project area. Although temporary, short duration disruptions to normal traffic operations would occur during construction, the impact would be less than significant. The project is not anticipated to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan because vehicular access would be maintained through the project area during construction.

- h) ***Less than Significant with Mitigation Incorporated.*** The project area is aligned along Reeves Canyon Road, which leads into a part of Mendocino County characterized by relatively steep terrain covered with annual grasslands and oak woodlands. Dispersed rural residences, including ranches and vineyards are accessed via Reeves Canyon Road, with few alternative roads available that could be used to escape a wildland fire (or alternatively, to gain access for the purposes of fire suppression). Fire hazard in the project area and vicinity is mapped as “high” (County of Mendocino 2007). The use of construction equipment in and around vegetated areas increases the potential for wildfire ignition. *Mitigation Measure #19 – Wildfire Potential* will be implemented to reduce the risk of wildfire associated with project construction to a less-than-significant level. Operation of the project would have no effect on wildfire potential.

Mitigation Measures

Implement *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of the project area environment.

Mitigation Measure #17–Lead-based Paint

- Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor’s discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2010).

Timing/Implementation:	During construction
Enforcement:	County, EPA
Monitoring:	County and/or its contractor

Mitigation Measure #18–Treated Wood Waste

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #19–Wildfire Potential

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XI. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should 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 which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation of seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) ***Less-than-Significant Impact.*** Construction and operation of the project would not violate any water quality standards or waste discharge requirements set forth by the North Coast RWQCB in its Water Quality Control Plan for the North Coast region (North Coast Regional Water Quality Control Board 2011). Water pollution control measures have been incorporated into the project design and are required according to Caltrans Standard Specifications (Section 7-1.01G). Additionally, project activities would comply with the requirements set forth in a 401 Water Quality Certification, which is required by the RWQCB prior to project implementation.

- b) **No Impact.** Construction and operation of the project would have no effect on groundwater supplies. There would be no net change in local aquifers or the local groundwater table as a result of the project.
- c) **Less-than-Significant Impact.** Construction activities associated with the project are not anticipated to alter the existing drainage pattern of the site or area in a way that would result in downstream erosion or sedimentation. Scour protection is expected to consist of 1/4-ton RSP along the east and west side of the riverbank for a stretch of 36 feet in length and 12 feet in width. This RSP would be placed above the OHWM and outside of the low-flow channel of Forsythe Creek. A temporary work area within the channel would be needed to construct the necessary falsework and to drop the existing bridge onto during its removal. This temporary work area would consist of a temporary stream diversion and work pads constructed of clean spawning gravel and would be removed following completion of the new bridge construction.
- d) **Less-than-Significant Impact.** The project would not substantially alter the existing surface or instream drainage patterns of the project area. The replacement bridge would improve the hydraulics slightly by replacing the existing bridge with a longer bridge. In addition, the proposed soffit elevation of 794.0 feet above mean sea level would provide 1.4 feet of freeboard above the Q_{50} and 0.5 feet of freeboard above the Q_{100} .
- e) **Less-than-Significant Impact.** The larger, wider new bridge structure and extended roadway approaches would increase the amount of impervious surface in the project area. The additional surface area would result in a slight, but less-than-significant, increase in storm water runoff and the potential for polluted runoff (e.g., lubricants). The existing bridge structure and roadway approaches would be removed and their footprints would be restored to natural conditions.
- f) **Less than Significant with Mitigation Incorporated.** Construction and operation of the project would involve construction activities and the use of hazardous materials (i.e., petroleum-based fuels and lubricants) in and adjacent to waterways. Construction activities could also temporarily increase the potential for sediment to enter the river. These project activities could degrade water quality in Forsythe Creek. It is anticipated that roadway and bridge deck drainage for this project would be diverted away from the approach fills and directly into the natural drainage swales within the Q_{100} floodplain of Forsythe Creek. Once the water is within the drainage swales, it is expected to infiltrate into the ground following typical rainfall events. The following resource protection measures will be used during construction to reduce this potential impact to a less-than-significant level:
- Water pollution control measures have been incorporated into the project description and will be included in the construction contract pursuant to Caltrans Standard Specifications (Section 7- 1.01G).
 - Erosion control measures will be implemented during construction of the proposed project in accordance with *Mitigation Measure #3—Erosion and Sediment Control*.
 - Construction specifications will include *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* to reduce potential impacts associated with hazardous materials.

- In-channel construction work and operation of the new bridge will be conducted in accordance with all measures contained in permits or associated with agency approvals.
- g) **No Impact.** The project does not include the construction of new housing within a flood hazard area.
- h) **Less-than-Significant Impact.** The hydraulic study conducted for the project concludes that the water surface elevation at the upstream face of the replacement bridge would decrease compared to the existing conditions due to the 34 foot longer and 3 feet higher proposed bridge (Avila and Associates 2012). The length, height, and structural design of the proposed bridge would meet the Caltrans Highway Design Manual requirements for hydraulic capacity and scour depth. The new bridge and the approach embankments would not encroach into the low-flow channel of Forsythe Creek.
- Project materials that would be placed in the Q_{100} floodplain of Forsythe Creek include temporary false work and RSP. Bridge abutments, including footings, would be outside of the OHWM, but within the Q_{100} floodplain. Abutments would be subjected to high seasonal flows; therefore, scour protection in the form of RSP would be required to avoid undercutting.
- Temporary materials and structures would be in place during the instream construction window (June 15 through October 15) and would be removed following construction and prior to October 15th. The area disturbed by the temporary gravel construction pad would be restored to pre-construction contours. Falsework—temporary bridge structure support—would be placed in the Q_{100} floodplain of Forsythe Creek during construction and is expected to consist of post and beams founded on wooden pads. All falsework materials would be removed after bridge construction is complete (prior to October 15).
- i) **Less-than-Significant Impact.** The new bridge would be built in the Q_{100} floodplain of Forsythe Creek (Federal Emergency Management Agency 2011). Hydraulic Design Criteria prescribed in Caltrans' Local Procedures Manual (California Department of Transportation 2009) have been incorporated into the project design to ensure that the new structure would be capable of conveying the base or Q_{100} flood. The new bridge would be designed to avoid problems stemming from the transport of woody debris in the channel during periods of high flow by avoiding the use of piers and by providing the minimum drift clearance recommended by Caltrans and FHWA. Temporary falsework clearance is anticipated to be adequate to pass typical river flows during the construction season.
- j) **No Impact.** The project site is not at risk of seiche, tsunami, or mudflow.

Mitigation Measures

Implement *Mitigation Measure #3 - Erosion and Sediment Control* and *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
X. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural communities' conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) **Less-than-Significant Impact.** The proposed bridge would replace the existing bridge over Forsythe Creek. Reeves Canyon Road is used primarily by residents to access properties beyond the project area. The project would not divide a community. While there may be minor delays to traffic passing along Reeves Canyon Road during construction, the effect on residents would be temporary and less than significant because the bridge would remain passable during construction and alternative routes are available.
- b) **Less-than-Significant Impact.** Construction of the project is consistent with the Mendocino County General Plan, Development Element (County of Mendocino 2009). The General Plan includes several Development Goals with which the project would be directly compatible. These include:
- **Goal DE-1 (Land Use):** Land use patterns that maintain the rural character of Mendocino County, preserve its natural resources, and recognize the constraints of the land and the limited availability of infrastructure and public services.
 - **Goal DE-4 (Land Use):** Functional, safe, and attractive communities compatible with the General Plan and community objectives, infrastructure availability, and environmental safety, as well as economic and other opportunities and constraints.
 - **Goal DE-5 (Noise):** A county in which existing residential and other sensitive uses are protected from excessive noise and in which noise-intensive uses are protected from encroachment by residential and other noise-sensitive uses.
 - **Goal DE-7 (Infrastructure):** Basic infrastructure—roadways, water and sewer service, schools, libraries, internet access, etc.—sufficient to support existing and future development, in place when needed, and fully funded both initially and on an ongoing basis.
 - **Goal DE-8 (Transportation):** A balanced and coordinated transportation system that:
 - Is an integrated and attractive part of each community.
 - Is functional, safe and pleasant to use, and supports emergency services.

- Provides a choice of modes accessing and connecting places frequented in daily life.
 - Promotes compact development and infrastructure efficiencies.
 - Is consistent with principles of sustainability and conservation of resources.
 - Is not solely dependent on the continuation of fossil fuel resources.
 - Can be maintained, used, and justified if available energy sources change during the duration of the General Plan.
- **Goal DE-9 (Road Systems):** A countywide road system that provides safe, efficient and attractive access, coordinated with interstate, state, local and area-wide systems.
 - **Goal DE-10 (Pedestrian & Bicycle):** Functional, safe and attractive pedestrian and bicycle systems coordinated with regional and local transportation plans and other transportation modes.

Replacement of the existing bridge structure would ensure safe and efficient movement of people and goods; meets environmental and circulation objectives; and implements funding strategies for construction, improvement, and maintenance of an existing roadway in Mendocino County. Project design and mitigation measures address local, state, and federal safety improvements to existing county roads.

- c) **No Impact.** Currently, there are no adopted habitat conservation plans, natural community conservation plans, or other approved habitat conservation plans that cover the project area.

Mitigation Measures

No project-specific mitigation is required under this subject.

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
XI. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) **No Impact.** The project area has not been mapped by the State Division of Mines and Geology as containing marketable aggregate (California Geological Survey 2006). Gravel mining activities do not occur at this location. It is unlikely that the project site would be considered an important aggregate resource. The closest mining operation (Northern Aggregates Incorporated, Harris Quarry) is located approximately 13 air miles northwest of the project area north of Willits.
- b) **No Impact.** No locally important mineral resource recovery sites are located within the project site.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XII. NOISE — Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a, d) ***Less than Significant with Mitigation Incorporated.*** The existing noise environment in the project vicinity is primarily defined by traffic noise emanating from Highway 101 (located approximately 500 feet east of the bridge). A short-term noise study (Bollard Acoustical Consultants 2012) was conducted to quantify existing ambient noise levels at the project site and the nearest residence to the project site. Existing ambient noise measurements at the two sites were found to be typical for semi-rural areas affected by local roadway noise.

FHWA's Roadway Construction Noise Model was used to model the various project equipment noise levels at the nearest noise sensitive location (i.e., the nearest residence) (Bollard Acoustical Consultants 2012). Data collected indicated that the noise generated by project construction activities would not exceed the 86 decibel (dB) maximum noise level allowed under Caltrans Specifications at a distance of 50 feet from the project activity area. Predicted maximum noise levels resulting from construction were anticipated to be at their highest during construction of the new bridge abutments, but the maximum predicted project construction noise level (83 dB) would be below the 86 dB maximum allowed by Caltrans. Construction noise would result in temporarily elevated ambient noise levels in the immediate project vicinity that would be limited to daytime hours (typically 7:00 a.m. to 7:00 p.m., Monday through Saturday). The noise study concluded that there would be no adverse construction noise impacts as a result of project construction. In addition, *Mitigation Measure #20 – Construction Noise* will be used to ensure that project-related noise impacts would be less than significant. Operation of the new bridge would not generate noise above existing levels.

- b) ***Less-than-Significant Impact.*** Construction-related ground vibration resulting from the movement of heavy equipment throughout the project area would be temporary and localized, and would occur only during daylight hours (typically 7:00 a.m. to 7:00 p.m., Monday through Saturday). The project area and vicinity are rural and the nearest residence is located approximately 0.1 mile away from the construction site. It is unlikely that any persons other than construction personnel would be exposed to ground vibration, thus the impact would be less than significant. The project does not involve the use of explosives.
- c) ***No Impact.*** Construction and operation of the project would not result in a permanent (on-going) increase in ambient noise because traffic levels would not increase as a result of the project.
- e, f) ***No Impact.*** The project is not located in the vicinity of an airport or landing strip.

Mitigation Measures

Mitigation Measure #20–Construction Noise

The County shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise to a less-than-significant level:

- Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Saturday.
- Each internal combustion engine used for any purposed on the job site shall be equipped with a muffler of a type recommended by the manufacturer.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
XIII. POPULATION AND HOUSING — Would the project:				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) **No Impact.** Replacement of the existing Forsythe Creek bridge structure would have no effect on population or housing in the vicinity of Reeves Canyon Road. It would not increase traffic capacity or extend road access beyond what is available without the project. It would improve traffic safety on Reeves Canyon Road where it crosses Forsythe Creek.
- b) **No Impact.** Existing housing in the vicinity of Reeves Canyon Road would not be displaced by the project and no replacement housing would be required.
- c) **No Impact.** No people would be displaced as a result of the project and no replacement housing would be required.

Mitigation Measures

No project-specific mitigation is required under this subject.

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
XIV. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impact

- a) ***Less-than-Significant Impact.*** The project would have a less-than-significant effect on public resources, including fire protection, police protection, and schools. Reeves Canyon Road is not used to access any parks or other public facilities. The proposed bridge would provide an improved, safer road and bridge across Forsythe Creek. During construction of the replacement bridge, traffic would be routed over the existing bridge, which would remain operational pending completion of the new bridge. No adverse effects on service ratios, response times, or service objectives for any of the public services are anticipated.

Mitigation Measures

No project-specific mitigation is required under this subject.

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
XV. RECREATION — Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

(a, b) ***No Impact.*** The project would have no effect on existing recreational facilities.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a) **Less-than-Significant Impact.** The project is not anticipated to increase either the number of vehicle trips, volume-to-capacity ratio, or congestion at intersections. The project is consistent with the goals and policies of the Mendocino County Regional Transportation Plan and the County's General Plan.
- b) **Less-than-Significant Impact.** The primary purpose of the project is to provide for safer traffic circulation. There is a potential for minor delays during construction. However, there would not be a lowered level of service during the construction phase of the project, as Reeves Canyon Road would remain open and traffic would continue to be routed over the existing bridge. Based on current traffic levels in the project vicinity, traffic congestion along Reeves Canyon Road at the Forsythe Creek bridge crossing is not anticipated during the construction phase of the project. Any effects on traffic during construction would be temporary and less than significant.
- c) **No Impact.** The project would not result in a change in air traffic patterns.
- d) **No Impact.** The project would not result in the creation of sharp curves, dangerous intersections, or incompatible uses. The project is designed to provide an improved alignment and a safer bridge across Forsythe Creek.

- e) ***Less-than-Significant Impact.*** During construction of the replacement bridge, traffic would be routed over the existing bridge. Stop signs during non-construction times and flagging during construction are anticipated. Although temporary, short-duration disruptions to normal traffic operation may be required during project construction. Reeves Canyon Road would remain open to traffic during construction and no significant impact on emergency vehicle access is anticipated.
- f) ***No Impact.*** The project would not be in conflict with any adopted plans, policies, or programs that support alternative transportation, and would be consistent with the goals and policies of the County's Regional Transportation Plan and the Mendocino County General Plan. The existing bridge crossing would remain open to alternative forms of transportation (e.g., pedestrian, bicycles) during construction.

Mitigation Measures

No project-specific mitigation is required under this subject.

	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
XVII. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a, b) **No Impact.** The proposed project does not involve any actions that would generate wastewater or affect any existing public utilities.
- c) **No Impact.** Construction and operation of the project would not require new facilities or alterations to existing storm water facilities. The project profile would provide sufficient gradient for drainage of roadway and bridge surfaces. It is anticipated that roadway and bridge deck drainage for this project would be diverted away from the approach fills and directly into the natural drainage swales within the Q₁₀₀ flood plain of Forsythe Creek. Once the water is within the drainage swales, it is expected to infiltrate into the ground following typical rainfall events.
- d) **No Impact.** No new or expanded water entitlements would be required for the project.
- e) **No Impact.** The project would be limited to improvements to the existing bridge and approaches, and would not result in a change in the current demand for wastewater treatment.
- f) **Less-than-Significant Impact.** Construction activities associated with the project would generate solid waste in the form of demolished materials, metal pilings, and other trash. With the exception of hazardous materials, solid waste generated at the project site would be disposed of at a suitable facility such as the Ukiah Transfer Station. Hazardous materials would be disposed of at an approved landfill. The project is not likely to generate solid waste in amounts that would

adversely affect the existing capacity of the local landfill. The contractor would be responsible for removing the existing bridge from the site.

- g) ***Less-than-Significant Impact.*** Any solid waste generated by the project would be disposed of at an approved landfill, in compliance with local, state, and federal regulations pertaining to solid waste disposal.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE (To be filled out by Lead Agency if required)				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) ***Less than Significant with Mitigation Incorporated.*** As discussed in the preceding sections, the proposed project has a potential to result in adverse effects on air quality, biological resources, and cultural resources. Special-status wildlife species that could be affected by the project are Central California Coast DPS steelhead, California Coastal ESU Chinook salmon, Central California Coast ESU coho salmon, northern red-legged frog, foothill yellow-legged frog, western pond turtle, long-eared owl, white-tailed kite, yellow warbler, yellow-breasted chat, pallid bat, and western red bat. Potential impacts on resources and the specified species are discussed in detail in the corresponding sections above. Mitigation measures required to reduce the significance of project impacts are summarized in Chapter 5. With implementation of the required mitigation measures, potential impacts would be reduced to a less-than-significant level. Although cultural resources are not likely to be affected, there is the potential for previously undetected cultural resources or human remains to be affected by project activities. Therefore, mitigation measures (see Chapter 5) have been incorporated into the proposed project to ensure protection of any such resources in the event of inadvertent discovery. The project is consistent with the existing land uses, and the relevant plans and policies that govern such projects.
- b) ***Less-than-Significant Impact.*** The project would include improvements to an existing transportation system by replacing an existing bridge structure with a new bridge. The project would not introduce new development into a previously undeveloped area. The project site is near rural residential and agricultural land uses. Existing open space will be retained. Impacts associated with the project would be limited to the construction phase for the most part, and can be fully mitigated for at the project level. As a result, cumulative impacts are considered to be less than significant.

- (c) ***Less than Significant with Mitigation Incorporated.*** The proposed Reeves Canyon Road bridge replacement project could result in a variety of impacts on human beings, particularly during the construction phase. Potential adverse effects on adjacent residential areas along Reeves Canyon Road are related to temporary decreases in air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and temporary increases in noise levels during construction. Chapter 5 contains mitigation measures that will be implemented to avoid or minimize potentially adverse effects to humans resulting from the construction and operation of the project. The project would not involve any actions that would have a substantial direct or indirect impact on the human environment that cannot be mitigated to a less-than-significant level.

4 Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “Potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (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

Jackson Ford, Environmental Compliance Specialist
Mendocino County Department of Transportation

Date

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5 Summary of Mitigation Commitments

Mendocino County is committed to implementing the following mitigation measures during construction of the Reeves Canyon Road at Forsythe Creek Bridge (No. 10C-0077) Replacement Project:

5.1 Air Quality

5.1.1 Mitigation Measure #1—Air Quality/Fugitive Dust and Emission Controls

The County shall include provisions in the construction bid documents that the contractor shall implement fugitive dust and emissions controls during construction activities. The fugitive dust and emissions controls shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- All earthmoving activities shall cease when sustained winds exceed 15 miles per hour.
- Pursuant to the California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.
- Any topsoil that is removed during construction shall be stored onsite in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.
- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.
- All unpaved surfaces, unless otherwise treated with suitable chemicals or oils, shall have a posted speed limit of 10 miles per hour.

- Construction vehicles shall minimize idling time and equipment shall be shut off when not in use pursuant to California Code of Regulations (Title 13, Division 3, Chapter 10 §2485).
- Construction equipment will be maintained in proper working conditions according to manufacturer's specifications. Equipment must be checked daily and determined to be in proper running condition before it is operated.

Timing/Implementation:	During construction
Enforcement:	Mendocino County AQMD
Monitoring:	County and/or its contractor

5.2 Biological Resources

5.2.1 Mitigation Measure #2—Special-Status Fish

- Prior to October 15, the temporary culverts, pipe, and work platforms shall be removed from the channel. The fish rock base shall be excavated down to the point at which there is a thin veneer remaining on the existing channel bed. Upon removal of the culverts and fish rock, hand crews may redistribute the remaining fish rock such that it does not become a barrier to the free passage of water or the movement of fish and aquatic animals. It shall not impede, or tend to impede, the passage of fish at any time, pursuant to Fish and Game Code Section 5901.
- The crossings shall not change the flow characteristics (i.e., velocity, depth, width) of the water as it flows through the project area. No ponding of flow shall occur above the pipe and culverts unless this type of ponding is typical of the area.
- Culverts shall be maintained and kept open while in place. Any ponding shall be corrected immediately. The County is responsible for such maintenance as long as the culvert remains in the stream.
- Any structure/culvert placed within a stream where fish do/may occur shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. For this project, this equates to designing the culverts to meet guidelines outlined in NMFS (2001).
- Impacts to herbaceous cover will be offset by reseeding any unvegetated and impacted areas with a suitable seed mixture post construction.
- All of the interstitial spaces of the RSP will be filled with well-graded soil to allow for revegetation.
- Any construction equipment operating upon work pads or adjacent to Forsythe Creek shall be inspected daily for leaks. External oil, grease, and mud shall be removed from equipment

and disposed of properly. Spill containment booms shall be maintained onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks shall maintain adequate spill containment materials at all times.

- The contractor shall develop and implement site-specific BMPs, a water pollution control plan, and emergency spill control plan. The contractor shall be responsible for immediate containment and removal of any toxins released.

NMFS developed a series of nondiscretionary terms and conditions in order to further minimize take of Central California Coast DPS steelhead and California Coastal ESU Chinook salmon (National Marine Fisheries Service 2013). The following are additional measures to be implemented per NMFS' Biological Opinion recommendations that are not already addressed above:

- Caltrans or the County shall retain a qualified biologist with expertise in the areas of anadromous salmonid biology, including handling, collecting, and relocating salmonids; salmonid/habitat relationships; and biological monitoring of salmonids. Caltrans shall ensure that all biologists working on this project be qualified to conduct fish collections in a manner which minimizes all potential risks to Central California Coast DPS steelhead and California Coastal ESU Chinook salmon. Electrofishing, if used, shall be performed by a qualified biologist and conducted according to the *NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act* [Available at: http://swr.nmfs.noaa.gov/sr/Electrofishing_Guidelines.pdf].
- A qualified fisheries biologist shall monitor the construction site during placement and removal of channel diversions and coffer dams to ensure that any harm or loss of salmonids is minimized and documented. The biologist shall be on site during fish relocation activities to ensure that all ESA-listed salmonids are captured, handled, and relocated safely. The biologist shall notify NMFS at least one week prior to capture activities in order to provide opportunity for NMFS staff to observe the activities.
- Captured fish shall be handled with extreme care and kept in water to the maximum extent possible during relocation activities. All captured fish shall be kept in cool, shaded, aerated water, protected from excessive noise, jostling, or overcrowding any time they are not in the stream and fish shall not be removed from this water except when release. To avoid predation, the biologist shall have at least two containers, and segregate young-of-year fish from large age-classes and other potential aquatic predators. Captured salmonids will be relocated, as soon as possible, to a suitable instream location in which habitat conditions are present and to allow for survival of transported fish and fish already present.
- If any salmonids are found dead or injured, the biologist shall contact NMFS North Central Coast Office. All salmonid mortalities shall be retained, placed in a sealable plastic bag, labeled with the date and location of collection, fork length, and frozen as soon as possible. Frozen samples shall be retained by the biologist until specific instructions are provided by NMFS. The biologist may not transfer biological samples to anyone other than the NMFS North Central Coast Office without obtaining prior written approval from the North Central

Coast Office, Supervisor of the Protected Resources Division. Any such transfer will be subject to such conditions as NMFS deems appropriate.

- All cofferdams, pumps, pipes and sheet plastic will be removed from the stream upon project completion; any clean native gravel used for the cofferdams will be left in the channel to augment available spawning habitat.
- All pumps used to divert live stream flow, outside the dewatered work area, will be screened and maintained throughout the construction period to comply with NMFS' *Fish Screening Criteria for Anadromous Salmonids*. [Available at: <http://swr.nmfs.noaa.gov/hcd/fishscrn.pdf>].
- County shall provide a report documenting the effects of fish relocation and dewatering to Caltrans no later than January 1, following completion of the construction. Caltrans shall forward this report to NMFS by no later than January 15, following completion of the construction. Contents required for the report are specified in the Biological Opinion and include specific information on the results of fish relocation and turbidity monitoring.

Timing/Implementation:	During and after construction
Enforcement:	NMFS, CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.2 Mitigation Measure #3—Erosion and Sediment Control

- Erosion control measures will be implemented during project construction. These measures will conform to the provisions in Section 20-2 and 20-3 of the Caltrans Standard Specifications and the special provisions included in the project contract. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that includes BMPs to be used at the project site.
- Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:
 - To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-channel construction will be conducted from June 15-October 15 and upland construction will likely occur throughout the year as long as work activities comply with the conservation and avoidance and minimization measures identified herein and for the protection of other sensitive or special-status plant or animal species. For upland construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.
 - Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved

by the County. Exclusionary fencing will be installed around areas that do not need to be disturbed.

- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.
- Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction.
- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.
- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.
- Any new or previously excavated gravel material placed in the channel shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher (excluding such materials as soil in the RSP to allow for riparian planting).

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

5.2.3 Mitigation Measure #4—Prevention of Accidental Spills of Pollutants

Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic habitat resources in the project area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored 50 feet away from surface water features.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Forsythe Creek or within an adequate fueling containment area.
- Equipment operating within the OHWM shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

5.2.4 Mitigation Measure #5—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts on riparian habitat in the action area:

- The width of the construction disturbance zone within the riparian habitat shall be minimized through careful pre-construction planning.
- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts to riparian vegetation outside of the construction area are minimized.
- Riparian habitat areas temporarily disturbed shall be replanted using riparian species that have been recorded along Forsythe Creek in the project area, including willow, white alder), and Oregon ash.
- Onsite creation/restoration shall occur in areas that have been disturbed during project construction and within interstitial spaces of the RSP. The amount of habitat created/restored shall be at a 3:1 ratio of new plantings per large (6 inch diameter at breast height) woody plants removed. This replanting ratio will help ensure successful establishment of at least one vigorous plant for each plant removed to accommodate the project.
- Plant spacing intervals will be determined as appropriate based on site conditions following construction.
- Non-native tree species removed during project construction will be replaced with native riparian species.
- Revegetation monitoring will be initiated immediately following completion of the planting, and extend for a period of up to five years. Monitoring surveys will consist of a general site walkover evaluating the survival and health of riparian plantings, signs of drought stress, weed or herbivory problems, and the presence or trash or other debris. Corrective measures including replacement of revegetation plantings, application of supplemental irrigation, hand

removal of non-native weeds, replacement or removal of protective plant covers, and the removal of trash and debris will be implemented as necessary. Within the mitigation area, less than 50 percent total mortality of planted species (including container stock and hardwood cuttings) will be considered a success. Greater than 50 percent mortality of planted species will be considered acceptable if “volunteer” native species provide complete vegetation coverage in the mitigation area. If monitoring results indicate that revegetation efforts are not meeting established success criteria, corrective measures would be implemented.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County

5.2.5 Mitigation Measure #6—Prevention of Spread of Invasive Species

- All equipment used for off-road construction activities will be weed-free prior to entering the action area.
- If project implementation calls for mulches or fill, they will be weed free.
- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.
- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.6 Mitigation Measure #7—Frogs

- Because northern red-legged and foothill yellow-legged frogs may move into and out of the project area at any time, a preconstruction survey for these species is necessary to confirm their status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project area for these frogs. The survey shall be conducted a maximum of one week prior to construction. If one of these frogs is found within a construction impact zone, the biologist shall move it to a safe location within similar habitat. The County will inform Caltrans when such an activity occurs.
- If a northern red-legged or foothill yellow-legged frog is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the frog will not be harmed. Any frogs encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed frogs shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.7 Mitigation Measure #8—Western Pond Turtle

- Because turtles may move into and out of the project site at any time, a preconstruction survey for the species is necessary to confirm its status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project site for pond turtles and their nests. The survey shall be conducted a maximum of one week prior to construction. If a pond turtle is found within a construction impact zone, the biologist shall move it to a safe location within similar habitat. If a pond turtle nest is found, the biologist shall flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and re-buried at a suitable location outside of the construction impact zone by a qualified biologist. The County will inform Caltrans when such an activity occurs.
- If a western pond turtle is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the turtle will not be harmed. Any turtles encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed turtles shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.8 Mitigation Measure #9—Raptors

- Preconstruction surveys for nesting raptors shall be conducted by a qualified biologist within the project area and a 250-foot buffer around the project area to ensure that no nests will be disturbed during project implementation. At least one survey should be conducted no more than 15 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees immediately adjacent to the impact areas for raptor nests. If an active raptor nest is found close enough (i.e., within 250 feet) to the construction area to be disturbed by these activities, the biologist (in consultation with the CDFW) shall determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.
- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed as a result of the project shall be removed before the onset of the nesting season (February 15 through September 30), if practicable. This will discourage nesting in areas that would be directly impacted by the proposed project and substantially decrease the likelihood of direct impacts.

Timing/Implementation:	Prior to and during construction
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Enforcement: CDFW, Caltrans
Monitoring: County and/or its contractor

5.2.9 Mitigation Measure #10—Migratory Birds

- Grading and other construction activities shall be scheduled to avoid the nesting season to the extent possible. The nesting season for migratory bird species that occur in the project vicinity extends from March through August. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, the following mitigations shall be implemented:
 - A qualified biologist shall conduct a minimum of one preconstruction survey for yellow warblers and yellow-breasted chats within the project area and a 250-foot buffer around the project area. The survey should be conducted no more than 15 days prior to the initiation of construction in any given area. The preconstruction survey should be used to ensure that no nests of these species within or immediately adjacent to the project area would be disturbed during project implementation. If an active nest is found, a qualified biologist should determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.
 - If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

Timing/Implementation: Prior to and during construction
Enforcement: CDFW, Caltrans
Monitoring: County and/or its contractor

5.2.10 Mitigation Measure #11—Bats

- To the extent practicable, the removal of any large trees shall occur outside of the breeding season of pallid bat and western red bat. For the purposes of implementation of this measure, the breeding season is considered to be from April 1 through August 15th.

Timing/Implementation: Prior to and during construction
Enforcement: CDFW
Monitoring: County and/or its contractor

5.2.11 Mitigation Measure #12—Sensitive Natural Communities

- The project shall be designed and constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. Staging areas and construction access routes shall avoid encroachment into riparian vegetation where practicable and minimize encroachment where complete avoidance is not practicable. Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and

vehicular traffic into the avoided areas delineated by the fencing shall be prohibited during construction. The exclusionary fencing shall be inspected and maintained on a regular basis throughout project construction.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.12 Mitigation Measure #13—Waters of the United States

- To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to RWQCB jurisdiction). Being that the proposed project will have temporary impacts on waters of the United States, the following measures shall be implemented to avoid or minimize the potential for these project-related impacts:
 - To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.
 - Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County.
 - Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.
 - Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.
 - If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated.
- Any new or previously excavated gravel material placed in the channel shall be washed at least once and have a cleanliness value of 85 or higher based on Caltrans Test No. 227.
- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials shall be stored 50 feet away from surface water features.
- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from the Forsythe Creek or within an adequate fueling containment area.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, North Coast RWQCB, CDFW
Monitoring:	County and/or its contractor

5.3 Cultural Resources

5.3.1 Mitigation Measure #14—Cultural Resources

- In the event archaeological deposits—other than those determined to lack eligibility for listing in the National Register of Historic Places—are discovered during project activities, all work in the immediate vicinity of the discovery shall be stopped immediately and the Mendocino County Department of Transportation shall be notified. An archaeologist meeting the Secretary of Interior’s Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the find and recommend appropriate conservation measures. The conservation measures shall be implemented prior to re-initiation of activities in the immediate vicinity of the discovery.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

5.3.2 Mitigation Measure #15—Human Remains

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Mendocino County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall

contact the Native American Heritage Commission. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the Native American Heritage Commission, as appropriate.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

5.4 Geology and Soils

Implement *Mitigation Measure #3 - Erosion and Sediment Control* to prevent degradation of water quality.

5.5 Greenhouse Gas Emissions

5.5.1 Mitigation Measure #16–Greenhouse Gas

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.
- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.
- Protect existing trees to the extent possible and encourage the planting of new trees.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.6 Hazards and Hazardous Materials

Implement *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of the project area environment.

5.6.1 Mitigation Measure #17–Lead-based Paint

- Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the USS-Posco Industries Waste Management Unit II Landfill in Pittsburg, California (CalRecycle 2010).

Timing/Implementation:	During construction
Enforcement:	County, EPA
Monitoring:	County and/or its contractor

5.6.2 Mitigation Measure #18—Treated Wood Waste

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.6.3 Mitigation Measure #19—Wildfire Potential

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.7 Hydrology and Water Quality

Implement *Mitigation Measure #3—Erosion and Sediment Control* and *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality.

5.8 Noise

5.8.1 Mitigation Measure #20—Construction Noise

The County shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise to a less-than-significant level:

- Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Saturday.
- Each internal combustion engine used for any purposed on the job site shall be equipped with a muffler of a type recommended by the manufacturer.

Timing/Implementation:	During construction
Enforcement:	County
Monitoring:	County and/or its contractor

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6 Report Preparation

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