Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Docket No. Pending

Applicant: Siskiyou Telephone

Carl Eastlick
Siskiyou Telephone
P.O. Box 157
Etna, California 96027
(530) 467-6000

January 2016

CH2M HILL Engineers, Inc.
2525 Airpark Drive
Redding, CA 96001

Contents

Section Page

Section Page

Section Page

Appendixes

Tables

Figures

Acronyms and Abbreviations

µg/m^3	micrograms per cubic meter
AB	Assembly Bill
APE	area of potential effects
APM	Applicant Proposed Measure
Basin	Northeast Plateau Air Basin
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	*Code of Federal Regulations*
CHRIS	California Historical Resources Information System
CO_2	carbon dioxide
CPUC	California Public Utility Commission
CRHR	California Register of Historic Resources
CWA	Clean Water Act
dB	decibel
dBA	decibel (A-weighted scale)
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	federal Endangered Species Act
FHWA	Federal Highway Administration
LUP General Permit	General Permit for Storm Water Discharge Associated with Construction Activity from Small Linear Underground/Overhead Projects
GHG	greenhouse gas
MLD	most likely descendant
MP	milepost
NAAQS	National Ambient Air Quality Standards
NEIC	Northeast Information System

NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act
PEA	Proponent's Environmental Assessment
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
ppb	parts per billion (by volume)
ppm	parts per million (by volume)
PRC	Public Resources Code
project	Clear Creek to Ti Bar Project
PTC	Permit to Construct
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
Siskiyou Telephone	Siskiyou Telephone Company
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
Update	*First Update to the Climate Change Scoping Plan*
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VQO	visual quality objective

SECTION 1

Proponent's Environmental Assessment Summary

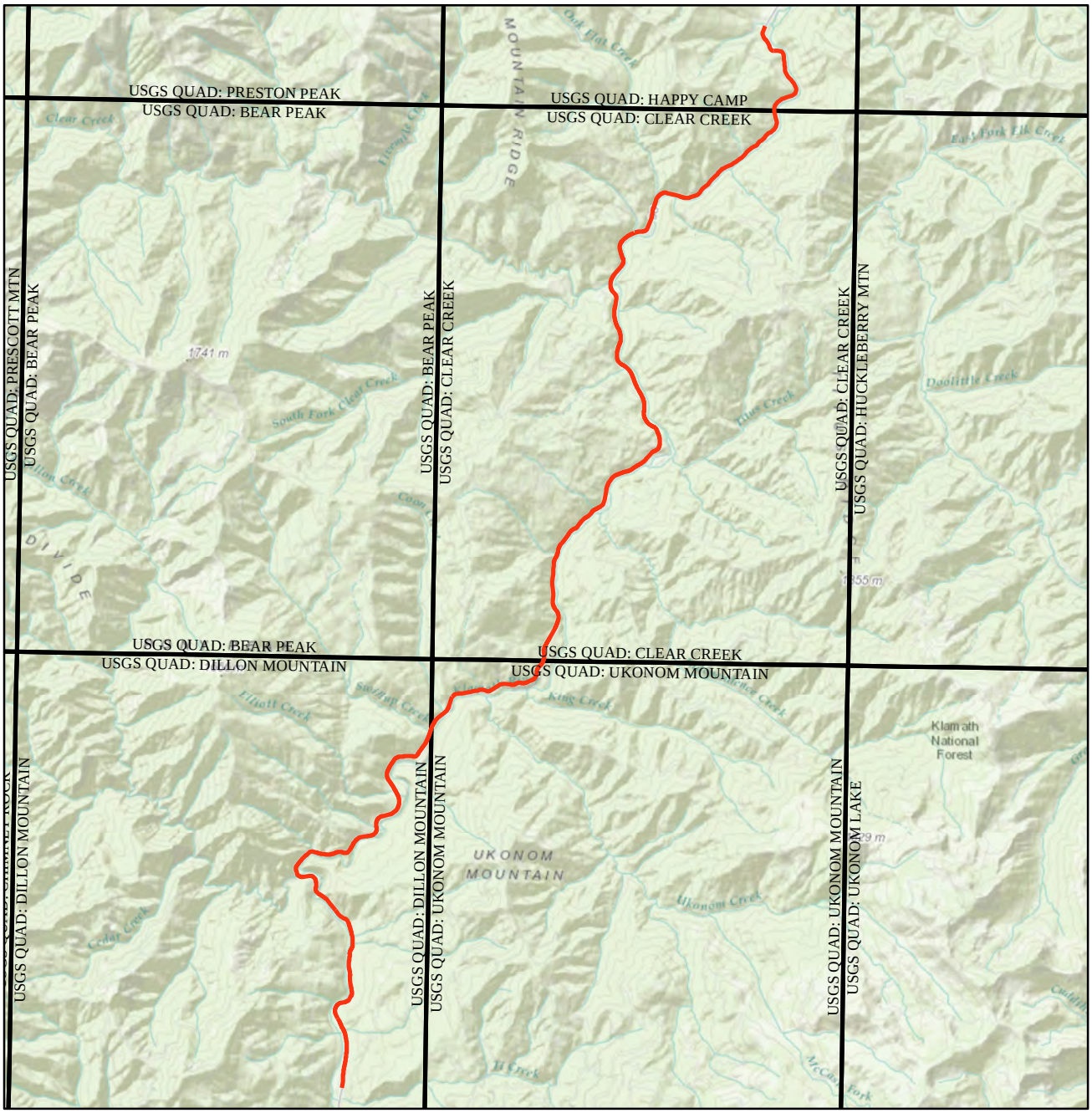
This Proponent's Environmental Assessment (PEA) was prepared for submittal to the California Public Utility Commission (CPUC) for consideration of distribution of Advanced Services Fund for evaluation of the potential environmental impacts that could result from the Clear Creek to Ti Bar Project (project). This project is proposed by Siskiyou Telephone Company (Siskiyou Telephone) for construction and operation of a fiber optic broadband facility cable to provide service to unserved and underserved areas along the State Highway 96 corridor between Somes Bar and Happy Camp. This project would also provide the Middle Mile Connection between the communities of Orleans, Somes Bar, and Happy Camp located in Siskiyou County, California (see Figure 1-1). This PEA is intended for submittal to the CPUC as a required component of the application for a Permit to Construct (PTC).

As required by the CPUC, this PEA follows the guidelines set forth in the PEA checklist for construction and operation of transmission and substation cable projects. The California Environmental Quality Act (CEQA) Initial Study checklist was used as the format for describing potential impacts.

The proposed project consists of installing 88,282 feet (approximately 16.72 miles) of fiber optic broadband facility cable in and alongside State Highway 96, which is maintained by the California Department of Transportation (Caltrans). The project site, as discussed herein, refers to a 10-foot-wide construction corridor for the fiber optic broadband facility cable within or adjacent to State Highway 96. The project area referred to in this PEA consists of the project site and land in the vicinity of the project site, including equipment staging locations. Installation of the components of the fiber optic broadband facility cable would occur within the asphalt and gravel roadways or within the existing Caltrans right-of-way (ROW) adjacent to the travel surfaces. Directional boring would be used when crossing creeks and culverts to avoid potential impacts on jurisdictional waters.

The purpose of the project is to provide telephone and broadband service capability for the first time to existing residences along the proposed fiber optic broadband facility route and also to complete the Middle Mile Connection for the communities of Orleans and Somes Bar. The project is needed to bring communication services to a remote area of Siskiyou County where residents are unable to communicate through the use of cell phones, satellite, or radio because of their minimal effective use in remote mountainous locations near Somes Bar. Telephone service is required to provide communication capability for the safety of residents in the area and to provide a high-speed communication and data link to the outside world to the communities served by the Middle Mile Connection.

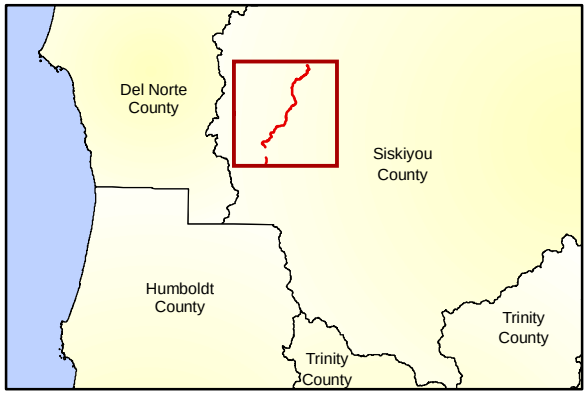
Currently, seven subscribers at existing residences in the service area along the project alignment are interested in receiving telephone service from Siskiyou Telephone. The proposed fiber optic broadband facility cable would provide service to these existing residences. It appears that up to 73 cultural sites (Village Sites) are along the project alignment. Construction activities would be situated to avoid these sites; however, as an additional precautionary measure, in specified locations, a tribal monitor would be onsite during construction. Interagency coordination would be conducted once the PEA has been accepted by the CPUC, and public outreach would occur through the PEA process as well as the National Environmental Policy Act process with U.S. Forest Service (USFS).



LEGEND

- Project
- USGS Quad (24K)

VICINITY MAP



N

0 5

Miles

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 1-1
Project Area
SISKIYOU COUNTY, CALIFORNIA

SECTION 2

Project Purpose and Need and Objectives

2.1 Overview

Siskiyou Telephone intends to provide telephone and broadband service capability to residences in the area between Clear Creek and Ti Bar, located in the Klamath National Forest, Siskiyou County, California, in Siskiyou Telephone's Somes Bar and Happy Camp Exchange service area. The project would be constructed under a grant from the California Advanced Service Grant Program as funded by the CPUC to Siskiyou Telephone.

The project would place a fiber optic broadband facility cable within a conduit approximately 17 miles within or adjacent to State Highway 96. The project alignment is located in a remote area of steep mountainous terrain where cell phones, satellite, and radio have minimal effective use. The nearest amenities and emergency service providers are located approximately 70 miles northeast, in the town of Yreka. The absence of services in the event of an emergency, such as an accident or fire in the area, is a concern to local residents.

Forest fires are prevalent in the remote areas of Siskiyou County, including the project area. Most recently, in summer 2014, fires burned west of nearby Happy Camp and in adjacent areas of the Klamath National Forest, east of the Klamath River, destroying both timber lands and homes located within the fire complex. Historically, Siskiyou Telephone has had a presence in the region for over 100 years. Many of its aerial facilities, such as transmission poles, have burned in forest fires or been damaged by other natural disasters (for example, heavy snow, lost in rockslides, or broken by falling trees in winter). Remote areas are inaccessible during the winter months for repair of damaged equipment. For these reasons, an overhead line has not been considered for this project.

2.2 Purpose and Need

The purpose of the project is to provide reliable telephone and broadband service capability to existing residences in the area between Clear Creek and Ti Bar and remote areas of Siskiyou County. A secondary purpose of installing the fiber optic broadband facility cable underground is to minimize cost and environmental disturbances. By encasing the fiber optic broadband facility cable in buried conduit instead of direct-buried copper or fiber optic cable, the future need to replace damaged or deteriorated copper or fiber optic cable is minimized. As a general practice, Siskiyou Telephone intends to eliminate the need to disturb ground every 5 to 10 years to replace deteriorated or outsized facilities by placing conduits instead of direct-buried copper or fiber optic cable. Environmental hazards, such as fires and downed trees, would not affect underground cable components.

This project would also complete a continuous fiber optic broadband facility route between Interstate 5 and U.S. Highway 101 on the coast, which would allow for the provision of a geographically diverse route. The project would incorporate the use of a self-healing fiber optic ring, allowing for service to be fed from either direction, which would protect the services and provide an enhancement to the safety for the region.

This project is needed because residents currently have minimal effective use of cell phones, satellite, or radio due to the mountainous and remote location; and currently, there are no land-based telephone or broadband services. Telephone and broadband service is required to provide reliable communication capability for the safety of residents in the area.

2.3 Project Objectives

The objective of the proposed project is to provide reliable telephone and broadband service capability to existing and future residences between the Clear Creek and Ti Bar areas, and complete a continuous fiber optic route between Interstate 5 and U.S. Highway 101. Most of the residences consist of single-family residences on privately owned property. People in the area range from elderly to young families and require telephone service for emergency use to report injuries and fires. Because the remote area is steep with mountainous terrain, cell phones, satellites, and radios currently have minimal effective use.

SECTION 3

Project Description

3.1 Project Location

The project site is located in Siskiyou County, approximately 111 miles southwest of Yreka, California. The project site begins at Milepost (MP) 12.15 on State Highway 96 and proceeds northeast approximately 16.72 miles (88,282 feet) to MP 32.21 (note: a 3-mile error in state milepost markers occurs between MP 16.38 and MP 19.64). State Highway 96 is located in both the Klamath National Forest and Six Rivers National Forest. Specifically, the project site is located in the following 7.5-minute U.S. Geological Survey (USGS) quadrangles: Dillon Mountain, Ukonom Mountain and Clear Creek. The project site is within the following legal descriptions:

- T13N; R6E; Section 8
- T14N; R6E; Sections 2, 5, 9, and 11 and continues into Sections 14, 15, 21, 22, 28, and 33
- T15N; R7E; Section 18 and follows State Highway 96 into Sections 17, 20, 29, 30, and 31
- T15N; R6E; Section 36

The entire project is confined within the Caltrans maintenance ROW in or adjacent to State Highway 96. The project would include ten minor creek crossings: Douglas Creek, Browns Creek, Allard Creek, Crawford Creek, Wyman Creek, Coon Creek, Elliot Creek, Aubrey Creek, Three Creeks, and Kennedy Creek (see Figures 3-1 through 3-10, respectively).

3.2 Existing System

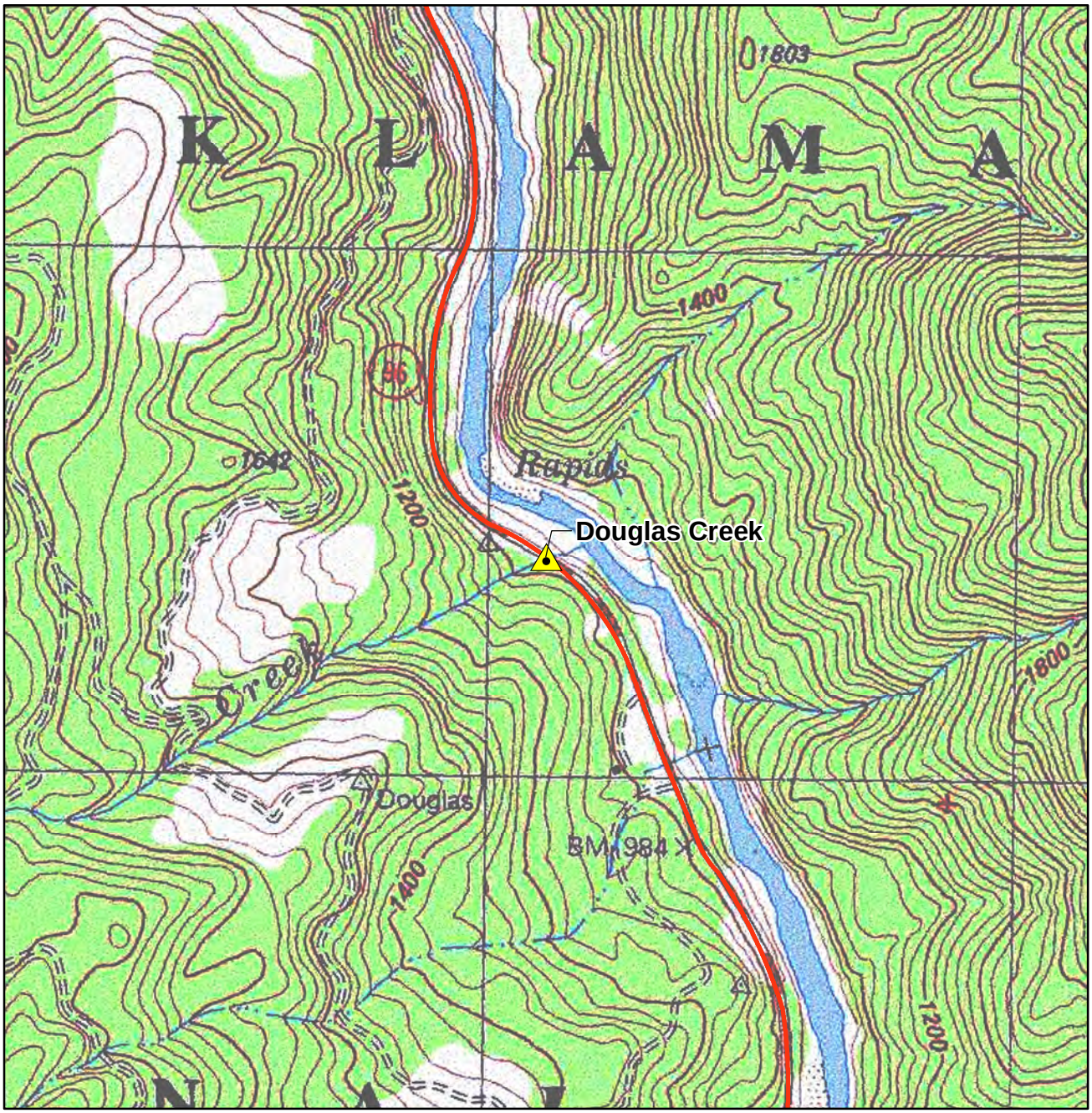
The existing telephone system consists of a fiber optic cable from Fort Jones to Happy Camp to Benjamin Creek, and a fiber optic cable from Somes Bar to Ti Bar. All fiber optic lines are placed in underground conduit systems. Siskiyou Telephone has backup generators at its Fort Jones, Happy Camp, and Somes Bar central offices.

3.3 Project Alternatives

The project alignment is along State Highway 96, which is bordered by steep slopes on the west and the Klamath River on the east. The proposed project is the only feasible alternative to service subscribers in the area because of the remote location and steep terrain.

3.3.1 No Project Alternative

Under the No Project Alternative, Siskiyou Telephone would not be granted authorization by CPUC to provide telephone or broadband service to residents in the area between Clear Creek and Ti Bar, and the proposed fiber optic broadband facility cable would not be installed. Residents would continue to have unreliable telephone services, including for emergency purposes. Additionally, a continuous fiber optic route between Interstate 5 and U.S. Highway 101 would not be completed.



LEGEND

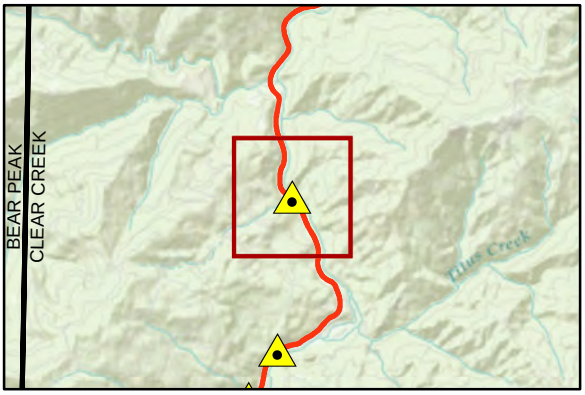
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

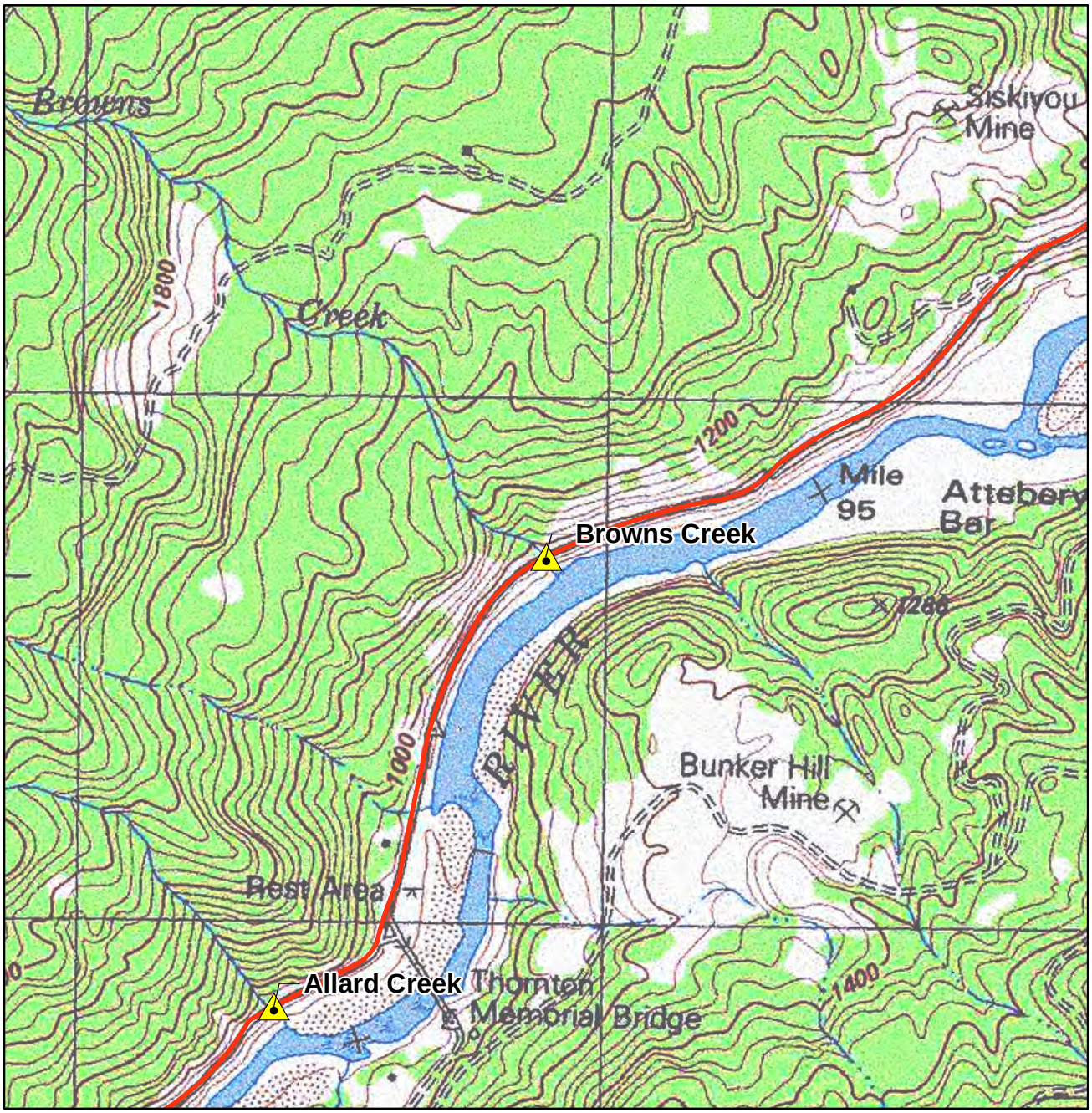
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-1
Project Area and
Douglas Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

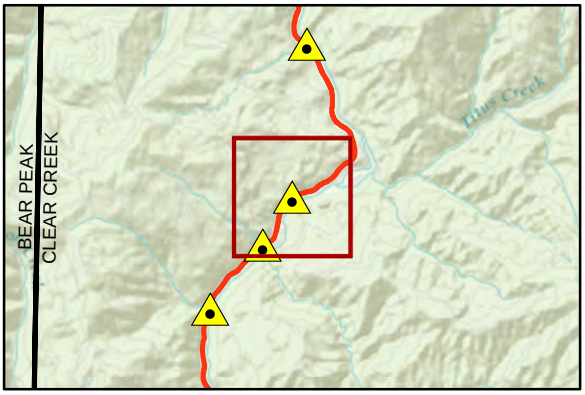
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

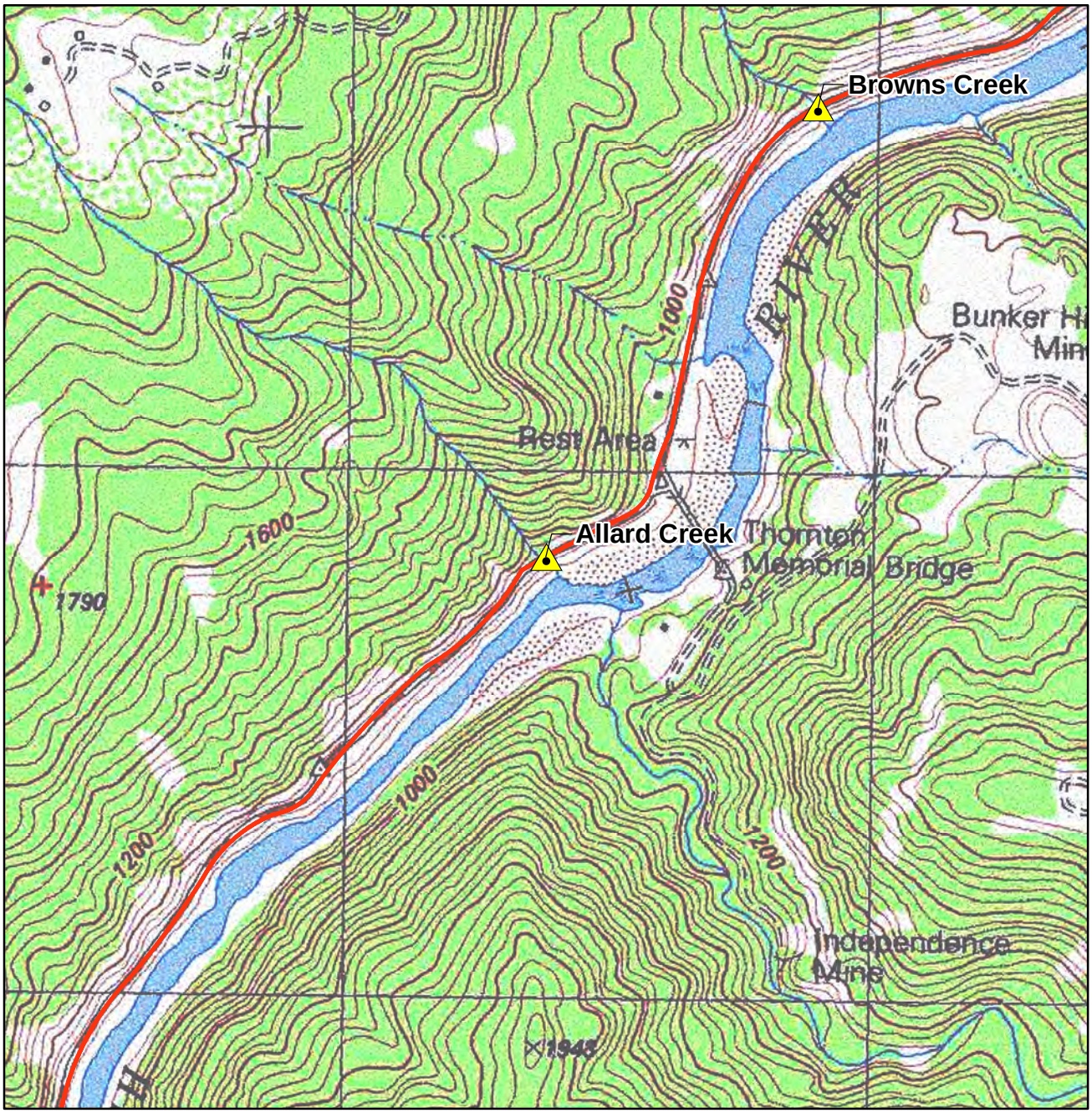
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-2
Project Area and Browns Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

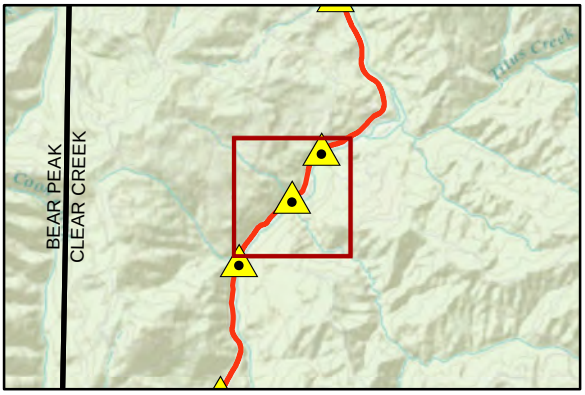
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

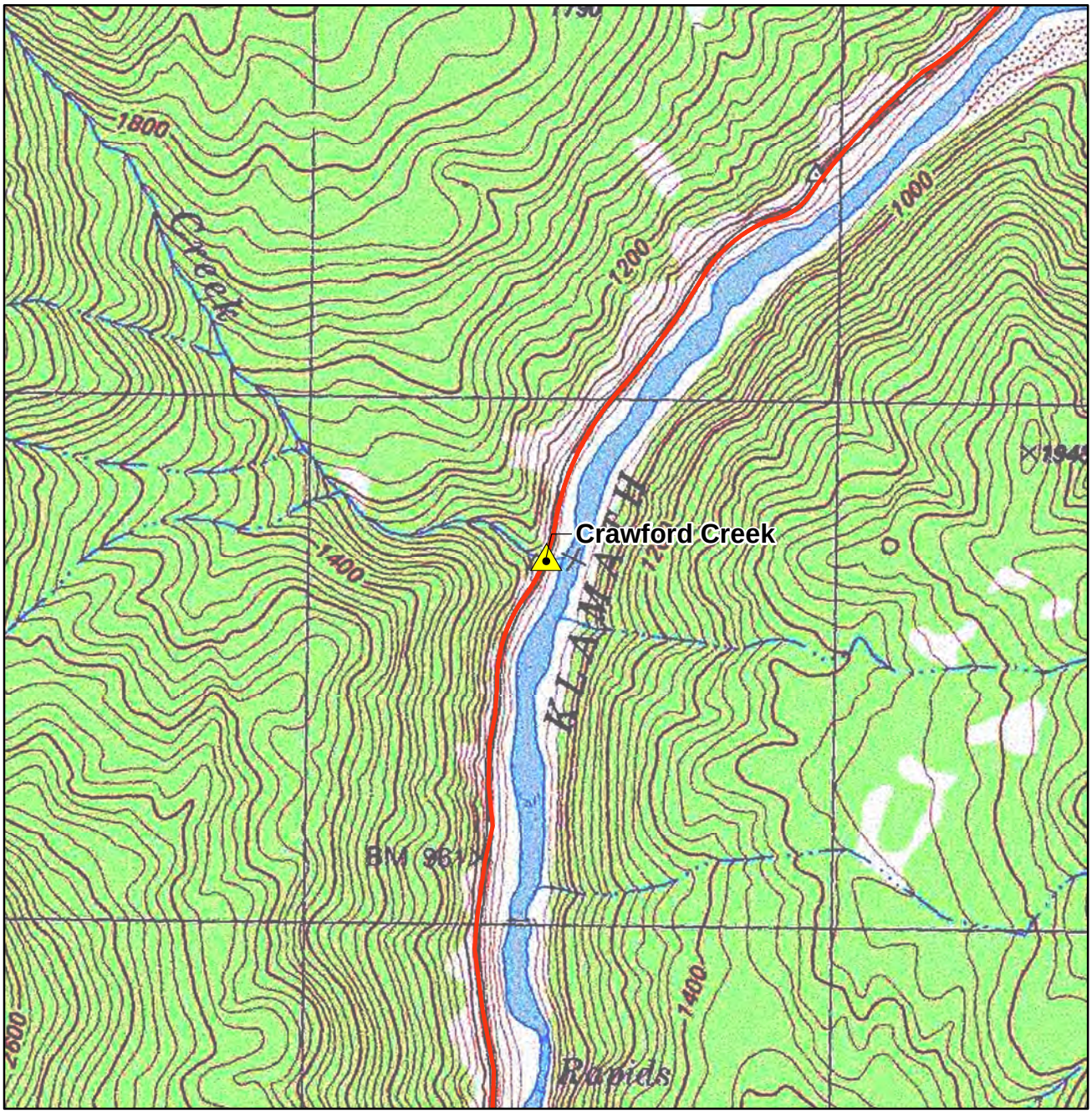
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-3
Project Area and
Allard Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

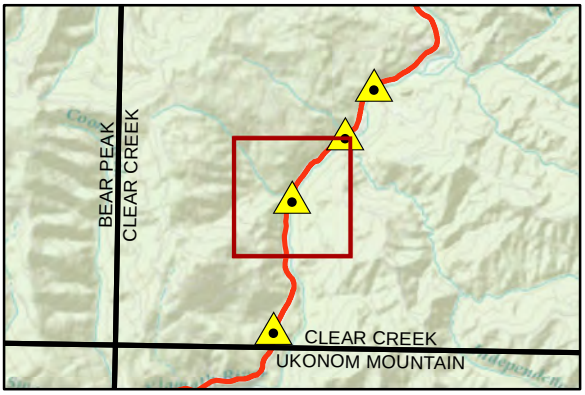
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

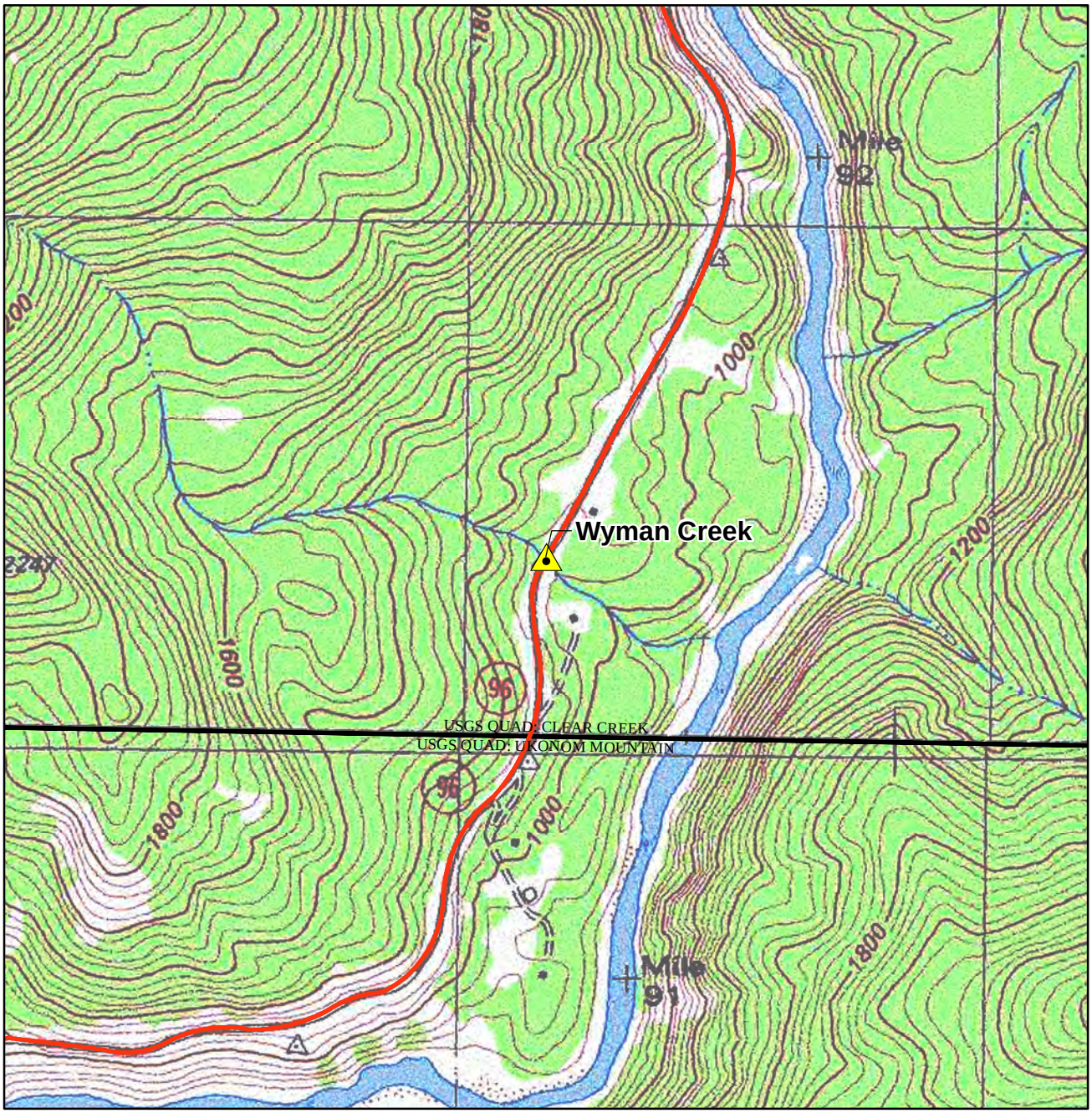
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-4
Project Area and
Crawford Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

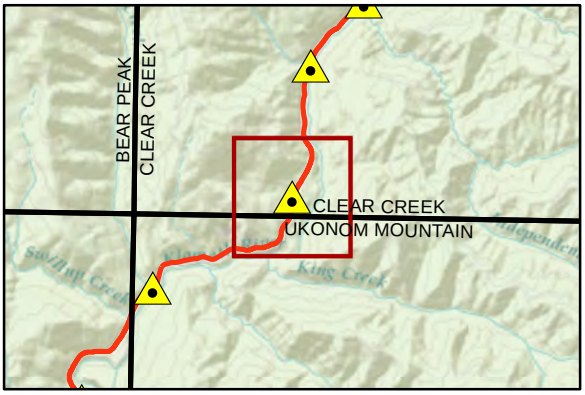
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

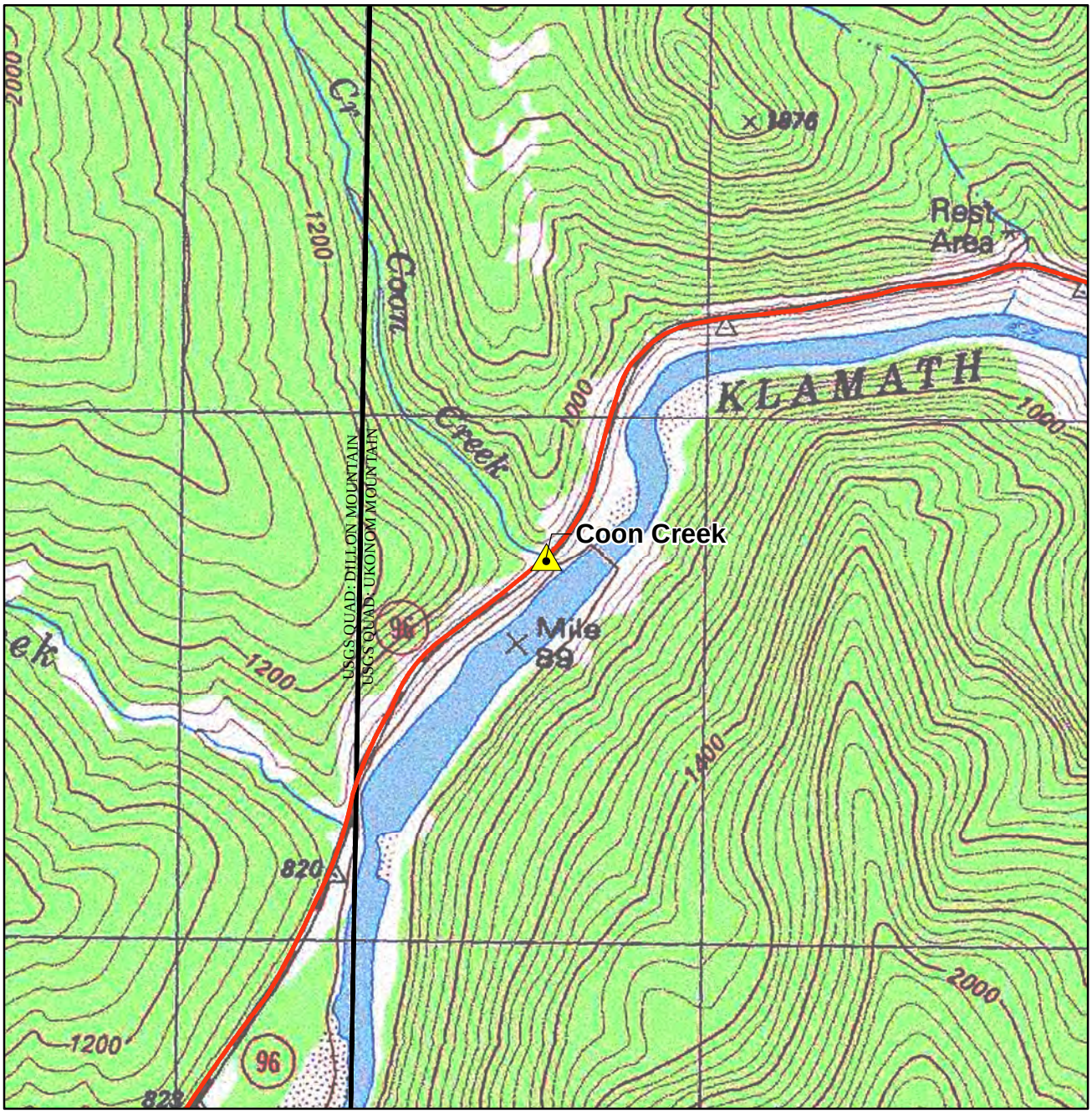
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-5
Project Area and
Wyman Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

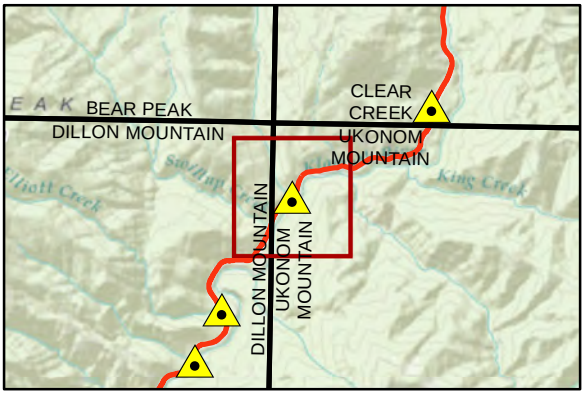
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

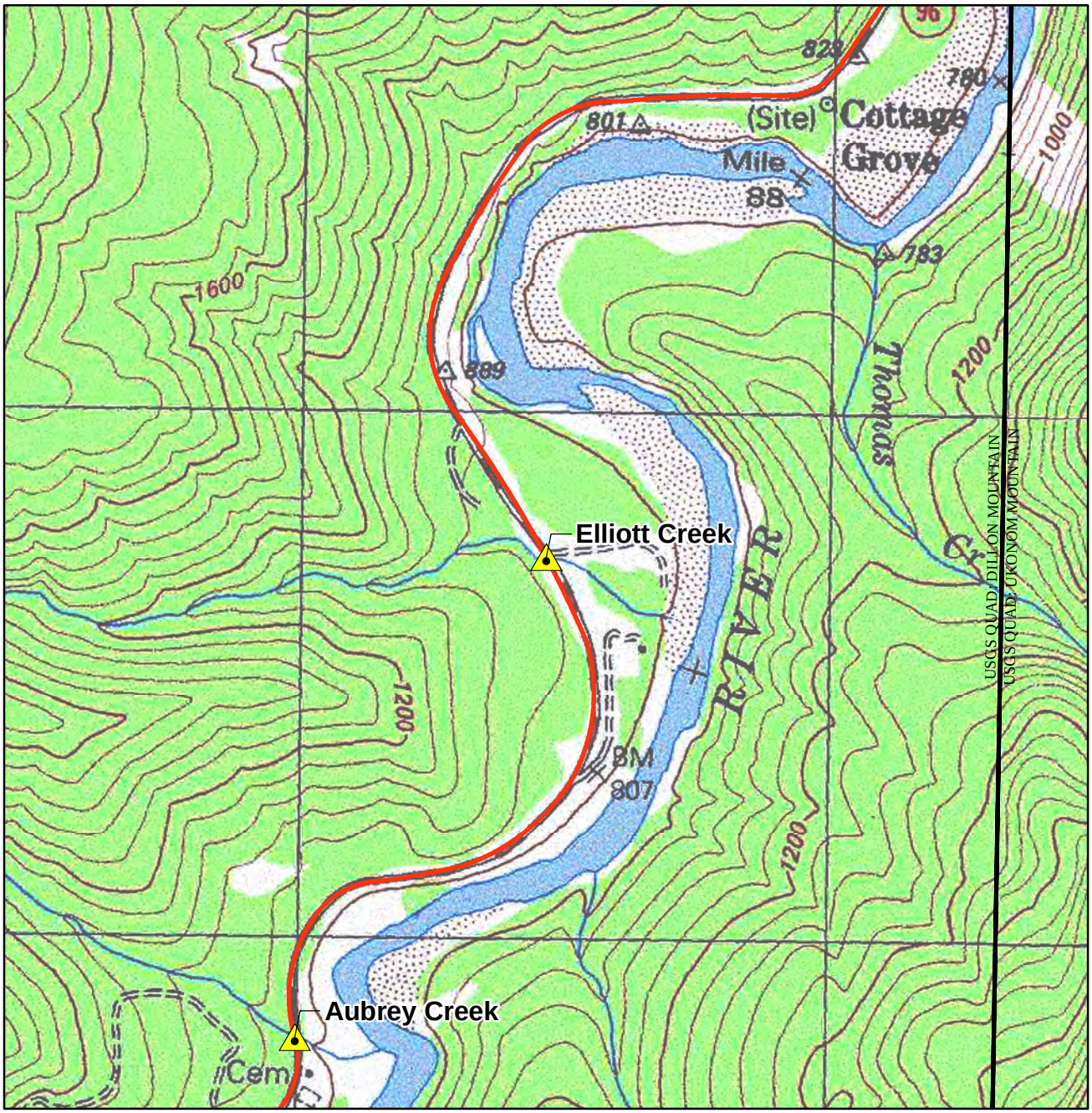
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-6
Project Area and Coon Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

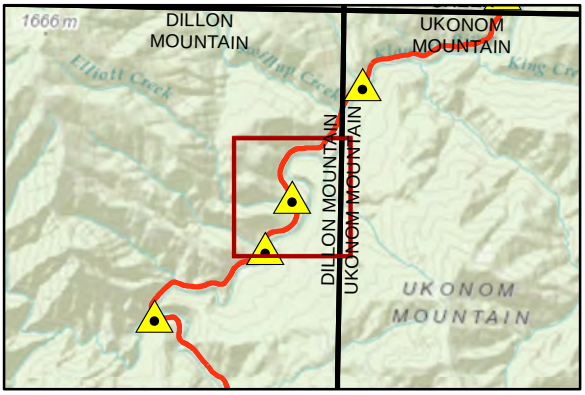
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

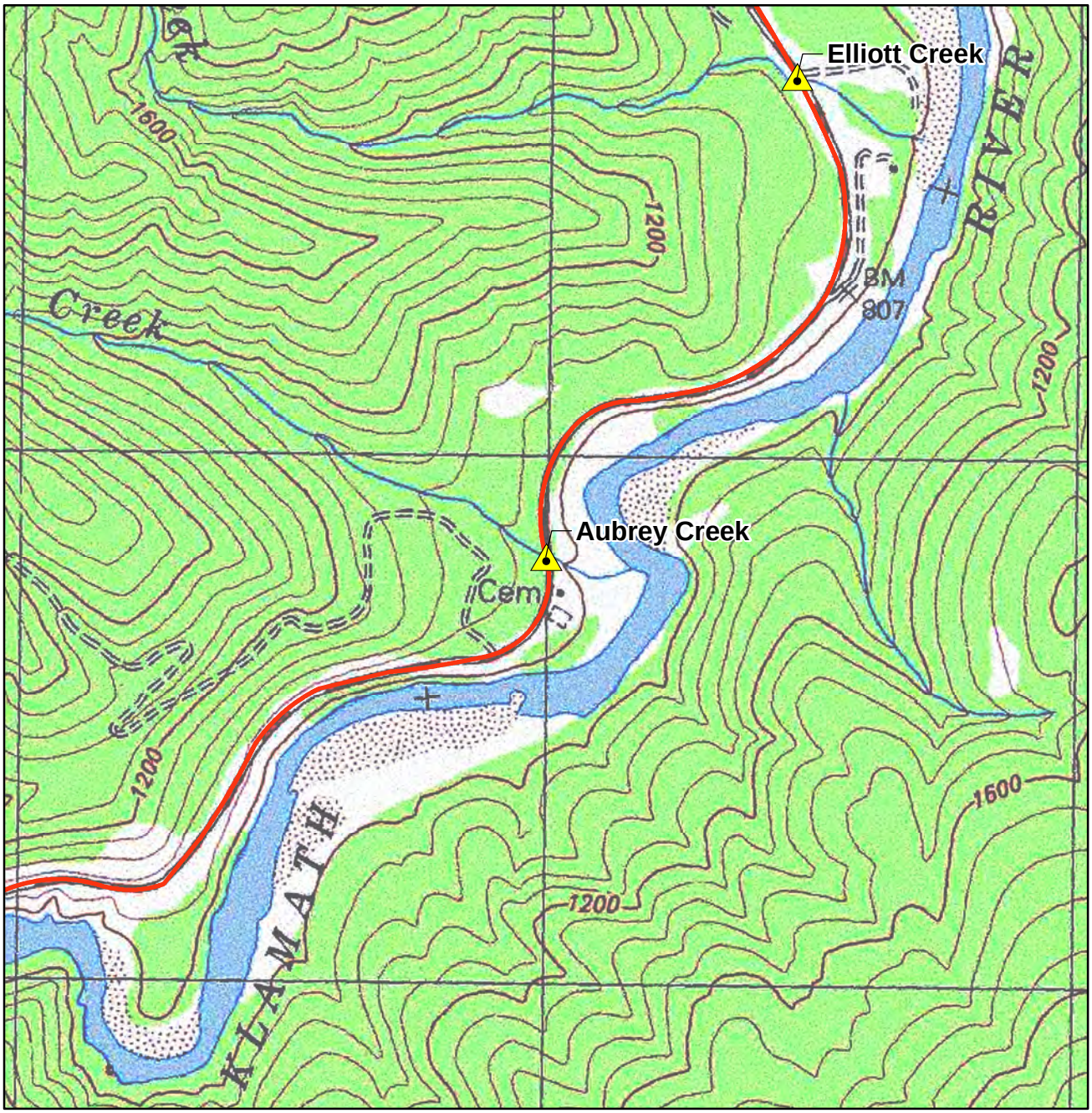
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-7
Project Area and Elliott Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

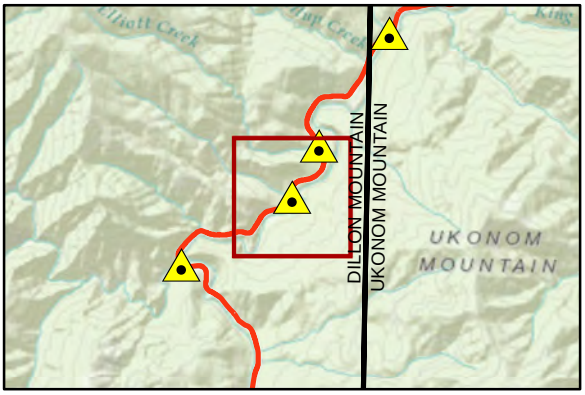
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

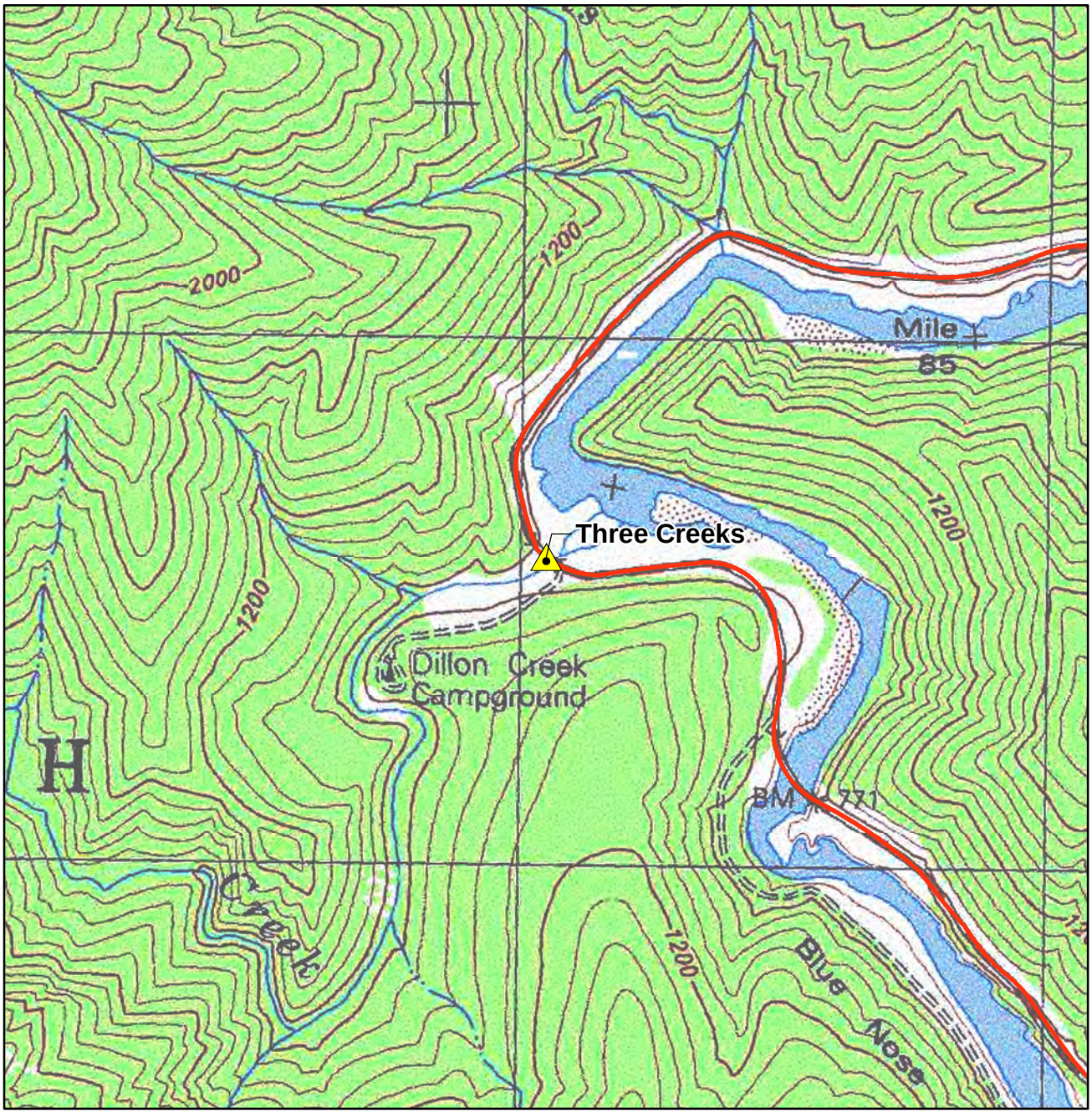
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-8
Project Area and
Aubrey Creek Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

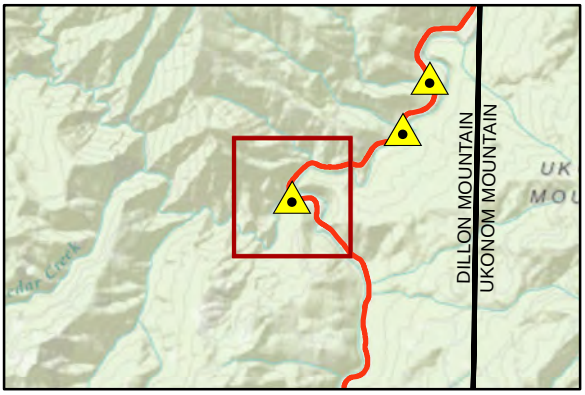
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

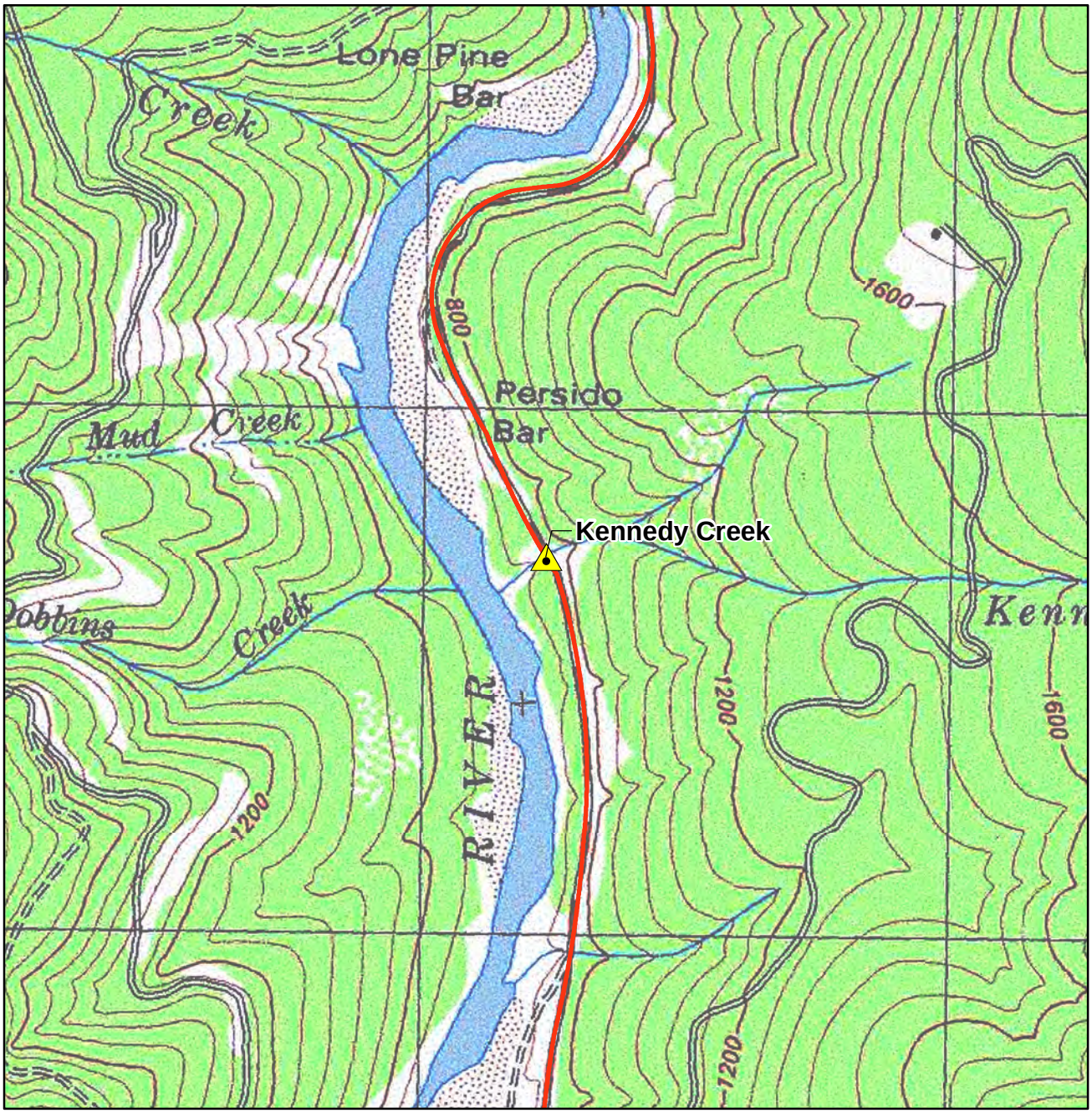
Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-9
Project Area and
Three Creeks Crossing
SISKIYOU COUNTY, CALIFORNIA



LEGEND

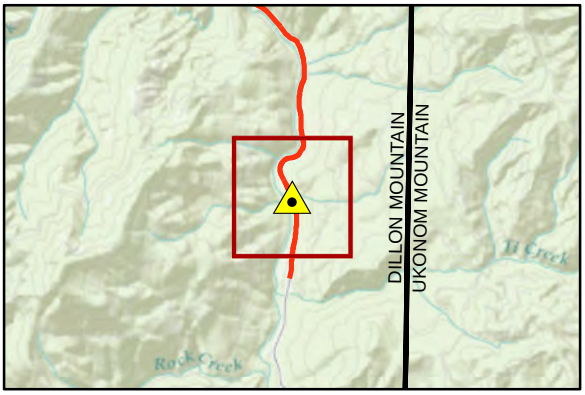
- Creek Crossing
- Project
- USGS Quad (24K)

N

0 2,000

Feet

VICINITY MAP



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 3-10
Project Area and
Kennedy Creek Crossing
SISKIYOU COUNTY, CALIFORNIA

3.3.2 Alternative Considered but Eliminated

The installation of overhead transmission lines was considered but rejected because overhead lines would not meet the project's purpose of providing reliable emergency communication service in the case of an environmental hazard, such as heavy snow, a fire, or downed trees. In addition, overhead transmission lines would not meet the purpose of reducing maintenance costs.

3.4 Proposed Project

The proposed project consists of two components: cable and utility box installation. The locations of the project components are shown in detail on the Siskiyou Telephone Staking Sheets provided in Appendix A. The project would consist of all new construction because no existing project components are located onsite.

3.4.1 Cable

An estimated 88,282 feet of underground cable, including drops to subscribers, are proposed to be installed in conduit along the cable alignment. Fiber optic broadband facility cable would be installed using both directional boring and trenching. The majority of the project would be constructed using hard-rock directional boring techniques. Several culverts would be crossed while constructing the project. If a culvert has a minimum of 4 feet of ground cover, Siskiyou Telephone would trench directly over the culvert. If the culvert had less than 4 feet of ground cover, Siskiyou Telephone would tunnel under the culvert at a minimum depth of 6 feet below the bottom of the culvert invert. The telephone service cable would be made of fiber optic service line that would be placed in a 1.5-inch high-density polyethylene conduit. Conduit may be routed around a culvert if space allows on the shoulder of the roadway. Directional boring would also occur as an avoidance measure in areas where there are known state- or federally listed species or habitat including jurisdictional waters.

Trenching would only occur where the shoulder width can accommodate the operation without damaging the road surface or shoulder, and where boring cannot be done. Trenching would be conducted to a width of approximately 1.5 feet and a depth of approximately 4 feet within the road or road shoulder to provide room for the conduit. After the cable and conduit are installed, the trench would be filled with Class II base rock, compacted, and repaved (if necessary) to restore the roadway and road shoulders to preconstruction conditions.

Additionally, the project alignment requires ten minor stream crossings: Douglas Creek, Browns Creek, Allard Creek, Crawford Creek, Wyman Creek, Coon Creek, Elliot Creek, Aubrey Creek, Three Creeks, and Kennedy Creek. The stream crossings would be directionally bored a minimum of 30 feet below the streambed if water is present and 18 feet below the streambed if dry. No standing trees would be removed or trimmed.

3.4.2 Utility Boxes

Forty concrete hand hole utility boxes are proposed to be installed as access points for subscriber drop, splice points, and grounding locations. The opening of the hand hole boxes would be at ground surface elevation and would be approximately 6 feet 7 inches long by 3 feet 1 inch wide by 4 feet deep with a traffic-rated lid. Boxes would be placed along the fiber optic broadband facility cable route at 2,500-foot minimum spacing to provide rural utilities service grounding. Additional boxes would also be placed as needed along the route to provide access points for each residential subscriber, or fiber optic line splices. Locations along the cable alignment could require digging out of the rocky bank to create a clearing large enough that the box can be opened and closed easily. In areas where digging the bank would be required, the bank would be less than 5 feet high. If needed, a rock retaining wall would be

built around the cutout to support any loose impediments such as rocks and debris that might fall on the box or into the roadway.

3.5 Right-of-Way Requirements

The proposed project would be constructed within and adjacent to State Highway 96 ROW in Siskiyou County, which is maintained by Caltrans. A minimum construction access width of 10 feet would be required for trench or plow excavation. All construction equipment would remain within existing roadways or road shoulders.

3.6 Construction

3.6.1 Material Storage and Equipment Staging Areas

Siskiyou Telephone has made an agreement with a disposal site located in Happy Camp on State Highway 96 for disposal of stockpiles and temporarily storing equipment (Happy Camp disposal site). Because of the long distance to haul bore spoils, a mud cleaner would be used onsite, and the majority of the mud would be recycled back into the bore machine. Any remaining refuse would be hauled to a temporary stockpile location and then hauled to the Happy Camp site for final disposal. Trench spoils would be temporarily stockpiled in the larger turnouts along the alignment and hauled out weekly. In the event of inclement weather, stockpiles would be covered to prevent runoff. Two primary sites for temporary gravel and trench spoils storage are adjacent to State Highway 96 between MP 34.78 and MP 34.59 and between MP 13.21 and MP 13.32. Numerous turnouts along the route would be used as temporary day parking for transportation vehicles while crews work onsite. All construction equipment, the trencher, backhoes, and plows would remain onsite throughout construction, parked in the same turnouts with safety cones around them so they are visible to traffic. All construction equipment would be parked so that through-traffic would not be impeded on the roadways after hours. The transportation vehicles would leave with the crews and return when work resumed.

3.6.2 Work Areas

Work areas in the project site consist of State Highway 96, which is approximately 32 feet wide. Flaggers would control traffic encountered during construction activities. Traffic delays might be as long as 10 to 15 minutes. In the case of an emergency, or if an emergency vehicle needed to pass, the equipment would move immediately, to maintain emergency vehicle access. One full, 16-foot-wide lane would be available for emergency traffic at all times.

Conduits would be laid out alongside the construction route each morning so that additional vehicles would not impede traffic during construction. Dump trucks would haul trench spoils to the Siskiyou Telephone gravel site turnouts as needed and bring loads of Class II base rock back to the project site to be used for backfill to meet Caltrans compaction specifications. Additional trucks would then reload trench spoils and haul them to the Happy Camp disposal site for final disposal.

3.6.3 Use and Disposal of Excavated Material

Excavated material from State Highway 96 that meets Caltrans specifications would be used to backfill the trench. Remaining materials that do not meet Caltrans specifications would be removed from the site and transported to the nearest temporary stockpile location, to be reloaded and hauled to the Happy Camp disposal site. Class II base rock would be used to fill the remainder of the trench. After the Class II base rock is placed in the trench, it would be compacted in 1-foot lifts with a mechanical tamper, and the top 1 foot would be compacted with 20,000 pounds of force to meet Caltrans requirements. Caltrans currently requires 95 percent minimum compaction of materials placed in trenches in its roadways.

The excavated materials from the proposed project would amount to approximately 4,933 cubic yards. Excess trenched materials that are not used to backfill the trench would be disposed of at the Happy Camp disposal site.

3.6.4 Vegetation Clearance

Vegetation would not need to be cleared during construction of the project because all activities would be conducted within the existing roadway or on the shoulder of the road. The roads are used daily by residents and other traffic; thus, there is minimal vegetation along the highway due to normal operation.

3.6.5 Construction Personnel and Construction Equipment

Up to 50 people would be involved in trenching, boring, and installing conduit and fiber optic broadband facility cable for the proposed project. In addition, four additional personnel would be used for traffic control. The four traffic control personnel would enable two crews to work in separate locations along the cable alignment.

Table 3-1 lists the construction activities, personnel, and equipment required for the proposed project.

Table 3-1. Construction Workforce and Equipment
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Activity	Personnel Required	Equipment Required
Trenching	7 to 10	3 backhoes 3 dump trucks
Conduit Placement	12 to 15	2 pickup trucks 2 three-reel trailers 5 drill rigs 5 vac trailers/with trucks 2 cleaners
Backfill	6 to 8	1 excavator (compactor) 3 mechanical tampers 3 backhoes 1 water truck 2 dump trucks
Cable Placement	4 to 8	1 backhoe 1 reel dolly 2 fiber machines 2 air compressors 2 pickup trucks 2 (2-ton) reel trucks
Inspection	2	2 pickup trucks
Traffic Control	4	2 work trucks
Spoils Removal	2	Transfer truck

3.6.6 Erosion and Sediment Control and Pollution Prevention during Construction

Without implementation of best management practices (BMP) to address erosion and sediment control, sediment could be released into waters as a result of construction activities. Construction of the

proposed project would occur during the dry season (April through October), thereby minimizing the potential for erosion and sediment transport. Siskiyou Telephone would have the contractor prepare a Storm Water Pollution Prevention Plan (SWPPP) that outlines BMPs that would be implemented to address erosion and sediment control, including placement of sediment controls at culvert crossings, such as gravel bags with filter fabric, silt fence, or coir rolls. Materials from the trenching activities would be removed from the site and would be protected from erosion, and new material would be brought in to backfill the trench; therefore, erosion and sedimentation would be minimized.

The project would be constructed during the dry season (April through mid-October), and a water truck would be onsite to wet down the work area, including materials such as backfill and other construction components as needed to minimize offsite transport of dust.

During construction activities, the trench along the fiber optic broadband facility cable alignment would be backfilled and compacted daily. The surfaces of Caltrans roadways would be restored daily to preproject condition. Roadway conditions could be better than existing conditions by grading the road surface following daily construction activities.

3.6.7 Construction Schedule

Due to winter weather conditions, the project area has a short construction period. Before the rainy season begins, construction sites must be restored and protected for winter, by mid-October. Because construction of the proposed project can only occur during the dry season (April through October), it is anticipated that installation of the entire fiber optic broadband facility cable would be over a 2-year period (up to 6 months per year). The total duration of construction is estimated to last 195 days.

3.7 Operation and Maintenance

After the cable has been installed, and service has been initiated to local residents, it is anticipated that minimal operation or maintenance of the project components would be required. Operation would generally involve accessing utility boxes for maintenance purposes.

3.8 Required Approvals

The following permits and approvals are required for construction and operation of the project:

- Permit To Construct from the California Public Utility Commission
- Encroachment permit from Caltrans
- Lake or Streambed Alteration Agreement(s) from California Department of Fish and Wildlife (CDFW)
- National Pollutant Discharge Elimination System (NPDES), General Construction Permit from the California Regional Water Quality Control Board (RWQCB)
- Section 404 Nationwide Permit 12 (Utility Line Activities) from the U.S. Army Corps of Engineers (USACE)
- National Environmental Policy Act and a special use permit for construction from USFS

3.9 Potential Major Issues and Areas of Controversy

It appears that up to 73 cultural sites (Village Sites) are along the project alignment. Construction activities would be situated to avoid these sites; however, as an additional precautionary measure, in specified locations, a tribal monitor would be onsite during construction.

SECTION 4

Environmental Impact Assessment Summary

This section evaluates the potential for impacts that would occur with construction and operation of the fiber optic broadband facility cable. The CEQA Initial Study checklist from Appendix G of the 2014 CEQA Statute and Guidelines was used for evaluating potential impacts that would occur with implementation of the proposed project.

The CEQA Guidelines define a "significant effect" on the environment as a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including…objects of historic or aesthetic significance" (14 *California Code of Regulations* 15382).

Appendix G of the CEQA Guidelines lists questions in table format to be addressed in the resource area subsections to determine whether the potential impacts of a project are significant. Checklist questions are presented as significance criteria at the beginning of each resource area subsection.

Project measures that have been incorporated into the proposed project and construction plans to minimize the potential impacts during the construction and operation phases of the project are presented in each resource area subsection in Section 4 as "Applicant Proposed Measures" (APM). APMs are presented again, for reference, in Section 7.

4.1 Aesthetics

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1. **Aesthetics.** Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	X	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	X	☐

4.1.1 Environmental Setting

Aesthetic or visual resources are the natural and cultural features of a landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Impacts on aesthetic resources are generally defined in terms of a project's physical characteristics, potential visibility, and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. Special attention is focused on scenic vistas and other aesthetic resources, such as historic buildings, unique or special features in the landscape, and scenic highways.

The existing landscape character of the project area is a combination of three general types: natural/undeveloped, rural residential, and forest. The project area includes forested slopes and mountains interspersed with a few scattered single-family residences. Land adjacent to the project area

is federal or privately owned. Federal land is managed by USFS for timber harvest, recreation, and mining.

Views in portions of the project area encompass conifer and hardwood forested mountainous slopes intermixed with scattered rural residents. The Klamath River is visible from the highway. The majority of the project area is located in the Klamath National Forest Management 11 (Retention Visual Quality Objective [VQO]) and 15 (Partial Retention VQO). A Retention VQO provides a landscape where management activities are generally not evident to the casual forest visitor. Visual changes from the existing condition may only repeat the form, line, color, texture, and sizes of openings commonly found in the surrounding landscape (USFS, 1995). Partial Retention VQO provides landscape where management activities remain visually subordinate to the character of the existing landscape. (USFS, 1995).

State Highway 96 is not a federally designated scenic highway, nor are federally designated scenic byways located in the project area. State Highway 96 is designated by Caltrans as eligible, but is not officially designated as a California scenic highway (Caltrans, 2015b). The project area is identified in Siskiyou County's General Plan, Scenic Highways Element as a designated scenic route (Siskiyou County, 1974).

4.1.2 Regulatory Setting

Federal

The Visual Resource Management Program established in the *Klamath National Forest Land and Resource Management Plan* sets forth policies for conserving the naturally established scenic character of the forest on national forest land surrounding the project (USFS, 1995). The *Klamath National Forest Land and Resource Management Plan* establishes VQOs to inventory and regulate the visual impacts of projects and actions on the Klamath National Forest.

State

The California Scenic Highway Program's special conservation measures protect and enhance the natural scenic beauty of California highways and adjacent corridors. A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development interferes with the traveler's enjoyment of the view (Caltrans, 2015a. Although State Highway 96 is eligible for scenic highway designation, it has not been officially designated (Caltrans, 2015b).

Local

The Conservation Element of Siskiyou County's General Plan indicates the entire county is considered scenic land. National forests are identified as scenic assets of great value to be protected as scenic natural resources. In addition, land resources, including forests, which are important as commercial natural resources, are to be preserved, protected, and managed (Siskiyou County, 1973).

The Scenic Highways Element of Siskiyou County's General Plan provides for the preservation of scenic highways for the enjoyment of the general public, and spur community pride and contribute to the well being and enjoyment of the residents in Siskiyou County (Siskiyou County, 1974).

4.1.3 Impacts and Mitigation Measures

Applicant Proposed Measures

No APMs for aesthetic resources are recommended for the proposed project.

Project Impacts and Impact Significance

1a) Would the project have a substantial adverse effect on a scenic vista?

Construction Impacts. The proposed project is not located within the view of designated scenic vistas; therefore, construction of the proposed project would result in no impact on scenic vistas.

Operational Impacts. The proposed project is not located within the view of designated scenic vistas; therefore, operation of the proposed project would result in no impact on scenic vistas.

Mitigation Measures. No mitigation is required.

1b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Construction Impacts. Construction of the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway because there are no state-designated scenic highways near the proposed project. Therefore, construction of the proposed project would result in no impact on state-designated scenic highways.

Operational Impacts. Operation of the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state-designated scenic highway because there are no state-designated scenic highways near the proposed project. Therefore, operation of the proposed project would result in no impact on state-designated scenic highways.

Mitigation Measures. No mitigation is required.

1c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Construction Impacts. The fiber optic broadband facility cable would be installed underground. Temporary visual impacts would occur during periods of construction as a result of the presence of materials, equipment, and personnel at the project site. During construction, some equipment and materials would be temporarily parked or placed in turnouts along the roadways overnight. The road surfaces would be restored to preproject condition at the end of each work day. Although construction equipment, materials, and personnel would be visible along the project site during the duration of construction activities, their presence would be temporary. Construction of the proposed project would not substantially degrade the existing visual character or quality of the project site or its surrounding. Therefore, construction-related impacts would be less than significant.

Operational Impacts. The hand hole utility boxes proposed for installation along the fiber optic broadband facility cable alignment would be installed such that the tops of the boxes would be located at ground surface elevation and would not be noticeable within the surrounding landscape. Disturbed roadway surfaces would be graded and returned to preproject condition after construction activities. Project components would not be readily visible and would not change visual quality. Therefore, impacts on visual character and quality of the site and its surroundings resulting from project operation would be less than significant.

Mitigation Measures. No mitigation is required.

1d) Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction Impacts. Construction of the proposed project would not create a new source of light; however, construction vehicles could cause minor occurrences of glare from windshields. Additional

temporary sources of glare are not expected to adversely affect daytime or nighttime views in the area. Therefore, impacts during construction would be less than significant.

Operational Impacts. No lighting is associated with the project components; therefore, no impacts would occur during operation.

Mitigation Measures. No mitigation is required.

4.1.4 Works Cited

California Department of Transportation (Caltrans). 2015a. California Scenic Highway Program. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/faq.htm. Accessed November 18, 2015.

California Department of Transportation (Caltrans). 2015b. List of Eligible and Officially Designated State Scenic Highways. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm. Accessed November 18, 2015.

Siskiyou County. 1973. Siskiyou County General Plan. Conservation Element.

Siskiyou County. 1974. Siskiyou County General Plan. Scenic Highways Element.

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.2 Agriculture and Forest Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
2. **Agriculture 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 Dept. 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 & Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	X
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	X
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?	☐	☐	☐	X

4.2.1 Environmental Setting

The project area is located on USFS land and private land in the Klamath National Forest. There are no commercial agricultural practices in the project area, and the project area has not historically been used for agriculture. Land practices include the use of small residential plots for private use (gardening) and, in some areas of the Klamath National Forest, logging. The project site consists of established roadways and road shoulders that are not currently and have not been historically used for agricultural purposes.

The U.S. Department of Agriculture Soils Conservation Service classifies notable agricultural land as follows:

- Prime Farmland: Land that has the best combination of physical and chemical properties for the production of crops
- Unique Farmland: Land of lesser-quality soils, but recently used for the production of specific high-economic-value crops
- Farmland of Statewide Importance: Similar to prime farmland, but with minor shortcomings (e.g., steeper slopes, inability to hold water)

None of the area in or adjacent to the project site is considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation, 2012).

The project is also located in the Klamath National Forest Management Area 17 (General Forest). USFS manages federal lands within the project area as General Forest for activities including timber harvest, forage for recreation, and mining (USFS, 1995).

The project area is not contracted under the Williamson Act (California Department of Conservation, 2012). The Siskiyou County Planning Department has zoned federal and private land in the Klamath and Six Rivers National Forests as Rural Residential Agricultural (CH2M HILL, 2015, pers. comm.).

4.2.2 Regulatory Setting

Federal

The *Klamath National Forest Plan* and the *Six Rivers National Forest Plan* guide all natural resource management activities and establish management standards and guidelines for the forests. Each plan describes resource management practices such as timber harvesting and related activities, levels of resource production and management, and the availability and suitability of lands for resource management.

State

The California Land Conservation Act, also known as the Williamson Act, enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open-space uses.

The project area is in USFS land, and the majority of the project site is owned by Caltrans; therefore, no state regulations are applicable to agricultural resources at the project site.

Local

The Siskiyou County Planning Department is responsible for land use and planning in Siskiyou County and on Siskiyou County ROW easements in the Klamath National Forest.

4.2.3 Impacts and Mitigation Measures

Applicant Proposed Measures

No APMs for agriculture and forest resources are recommended for the proposed project.

Project Impacts and Impact Significance

2a) Would the project 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?

Construction and Operational Impacts. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located in the project site, and no farmland would be converted to non-agricultural use as a result of construction of the proposed project. Therefore, no impact on farmland would occur as a result of construction or operation of the proposed project.

Mitigation Measures. No mitigation is required.

2b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Construction and Operational Impacts. No conflict with existing zoning for agricultural use or Williamson Act contracts would result from construction of the proposed project. The project footprint does not contain any agricultural land uses, nor is the project site protected under the Williamson Act. Therefore, no construction or operational impacts on such resources would occur as a result of implementation of the proposed project.

Mitigation Measures. No mitigation is required.

2c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as define in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Construction and Operational Impacts. The proposed project is consistent with existing zoning and would not require a rezoning of any forest land, timberland, or timberland zoned Timberland Production. Therefore, no impact would occur as a result of construction or operation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

2d) Would the project result in the loss of forest land or conversion of forest land, to non-forest use?

Construction and Operational Impacts. The proposed project would be located in areas previously converted to roadway use (Caltrans and private) and would be located belowground, which would not

result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact would occur as a result of construction or operation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

2e) Would the project 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?

Construction and Operational Impacts. The proposed project is consistent with existing uses and would not require changes to the existing environment that could result in conversion of farmland to non-agricultural use. Therefore, no impact would occur as a result of construction or operation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

4.2.4 Works Cited

California Department of Conservation. 2012. *Farmland Mapping and Monitoring Program, County Information: Siskiyou*.

CH2M HILL/Heather Waldrop. 2015. Telephone conversation with Siskiyou County Planning Department/Brett Walker. December 17.

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.3 Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3. **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?	☐	☐	☐	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	X	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	X	☐
d) 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 that exceed quantitative thresholds for ozone precursors)?	☐	☐	X	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	X	☐

4.3.1 Environmental Setting

The proposed project is located in Siskiyou County, in the Northeast Plateau Air Basin (Basin). The Basin is located in the northeast corner of the state and contains Siskiyou, Lassen, and Modoc Counties, and covers approximately 14,788 square miles. The northern part of the Basin has volcanic peaks, and the south and west are dominated by forested mountains (California Air Resources Board [CARB], 2010).

Although CARB maintains a record of three air monitoring stations, currently the only monitoring station that is operating in Siskiyou County is located in Yreka (CARB, 2014a). This monitoring station measures particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) concentrations, particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$), and ozone concentrations. No other air pollutants are currently monitored in Siskiyou County (CARB, 2014b). The air pollutant of concern in Siskiyou County is ozone because this is the only pollutant for which measured concentrations have exceeded a state ambient air quality standard (8-hour ozone standard). In 2007, forest fires led to a significant exceedance of the federal and state standards for PM_{10} at the Yreka monitoring station. The PM_{10} concentrations most recently exceeded the state standards at the station in August 2012 (CARB, 2014c).

4.3.2 Regulatory Setting

Federal

Federal air quality policies are regulated through the federal Clean Air Act. Pursuant to this act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the following air pollutants (called "criteria" pollutants): carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, PM_{10}, $PM_{2.5}$, and lead. The ambient air quality standards represent levels established to avoid specific adverse health and welfare effects associated with each pollutant. Table 4-1 summarizes the ambient air quality standards.

The EPA has designated counties in California either attainment or nonattainment for each NAAQS. Air basins that have not received sufficient analysis for certain criteria pollutants are designated "unclassified" for those pollutants; this is the case for Siskiyou County. Table 4-2 presents the attainment status for Siskiyou County.

State

The California Clean Air Act was approved in 1988 and requires each local air district in the state to prepare an air quality plan to achieve compliance with California Ambient Air Quality Standards (CAAQS). CARB oversees California air quality policies. California established the CAAQS in 1969. These standards are generally more stringent and include more pollutants than the NAAQS. Similar to EPA, CARB designates counties in California as attainment or nonattainment for the CAAQS. Table 4-2 presents the attainment status for Siskiyou County.

Table 4-1. Ambient Air Quality Standards
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

			NAAQS[b]	
Pollutant	**Averaging Time**	**CAAQS[a]**	**Primary[c]**	**Secondary[c]**
Ozone[d]	8 hours	0.07 ppm	0.070 ppm	0.070 ppm
	1 hour	0.09 ppm	—	—
Respirable Particulate Matter (PM_{10})[e]	Annual arithmetic mean	20 µg/m³	—	—
	24 hours	50 µg/m³	150 µg/m³	150 µg/m³

Table 4-1. Ambient Air Quality Standards

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

			NAAQS[b]	
Pollutant	**Averaging Time**	**CAAQS[a]**	**Primary[c]**	**Secondary[c]**
Fine Particulate Matter ($PM_{2.5}$)[e]	Annual arithmetic mean	12 µg/m³	12 µg/m³	15 µg/m³
	24 hours	—	35 µg/m³	35 µg/m³
Carbon Monoxide	8 hours	9 ppm	9 ppm	—
	1 hour	20 ppm	35 ppm	—
Nitrogen Dioxide[f]	Annual arithmetic mean	0.03 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	100 ppb	—
Sulfur Dioxide[g]	Annual arithmetic mean	—	0.030 ppm	—
	24 hours	0.04 ppm	0.14 ppm	—
	3 hours	—	—	0.5 ppm
	1 hour	0.25 ppm	75 ppb	—
Lead[h,i]	Rolling 3-month average	—	0.15 µg/m³	0.15 µg/m³
	Calendar quarter	—	1.5 µg/m³	1.5 µg/m³
	30-day average	1.5 µg/m³	—	—
Visibility-Reducing Particles[j]	8 hours	[i]	—	—
Sulfates	24 hours	25 µg/m³	—	—
Hydrogen Sulfide	1 hour	0.03 ppm	—	—
Vinyl Chloride[h]	24 hours	0.01 ppm	—	—

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of 17 *California Code of Regulations*.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[e] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[f] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[g] On June 2, 2010, a new 1-hour sulfur dioxide standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 sulfur dioxide national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard; except

Table 4-1. Ambient Air Quality Standards

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

			NAAQS[b]	
Pollutant	**Averaging Time**	**CAAQS[a]**	**Primary[c]**	**Secondary[c]**

that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[h] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[i] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard; except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[j] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: CARB, 2015

Notes:

µg/m^3 = micrograms per cubic meter
ppb = parts per billion (by volume)
ppm = parts per million (by volume)

Table 4-2. Federal and California Air Quality Attainment Status for Siskiyou County

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Pollutant	Federal Status	California Status
Ozone	Unclassifiable/Attainment	Attainment
PM_{10}	Unclassifiable/Attainment	Attainment
$PM_{2.5}$	Unclassifiable/Attainment	Attainment
Carbon Monoxide	Unclassifiable/Attainment	Unclassified
Nitrogen Dioxide	Unclassifiable/Attainment	Attainment
Sulfur Dioxide	Unclassifiable/Attainment	Attainment
Lead	Unclassifiable/Attainment	Attainment
Visibility-Reducing Particles	--	Unclassified
Sulfates	--	Attainment
Hydrogen Sulfide	--	Unclassified

Source: CARB, 2013a; EPA, 2015

Local

The Siskiyou County Air Pollution Control District is the local agency charged with preparing, adopting, and implementing mobile, stationary, and area air emission control measures and standards.

4.3.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM AQ-1: To reduce fugitive emissions, construction of the proposed project would occur during the dry season (April through October). Water trucks would be present onsite to wet down the work area, including materials such as backfill and other construction components.

Project Impacts and Impact Significance

3a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Currently, the Basin does not have an air quality plan. An air quality plan is only required for areas designated nonattainment for the NAAQS. The Basin is designated unclassifiable or attainment for the NAAQS, so an air quality plan has not been developed or implemented

Construction Impacts. Construction of the proposed project would result in temporary emissions of fugitive dust from trenching and backfilling, and exhaust emissions from equipment. The Siskiyou County emissions inventory includes fugitive emissions from construction and exhaust emissions from off-road equipment (CARB, 2013b). The emissions inventory is typically the basis for the development of air quality plans; however, if the Basin were to develop an air quality plan, construction emissions from the proposed project would not be expected to conflict with development of a plan.

Operational Impacts. Once constructed, occasional maintenance to the utility boxes would result in negligible air emissions from the project site. Therefore, project impacts from operation would be less than significant.

Mitigation Measures. No mitigation is required.

3b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Impacts. The proposed project is located in an area designated attainment for the 8-hour CAAQS for ozone. The monitoring data for ozone show no exceedances of the state standard in 2009 at the Yreka station (CARB, 2010).

Construction of the proposed project would result in temporary emissions of fugitive dust from trenching and backfilling, and exhaust emissions from equipment. Construction fugitive dust emissions would be controlled by using a water truck (APM AQ-1). Because construction would be temporary (up to 6 months over a 2-year period), equipment exhaust emissions would not contribute to an exceedance of the 8-hour ozone standard. The Yreka monitoring station, where the 8-hour ozone exceedances have been measured, is located at a distance of approximately 40 miles northwest of the proposed project and near existing sources of emissions. The monitor is located approximately 0.5 mile from Interstate 5 and near a more populated area than that where the project construction would occur. Therefore, temporary emissions from construction would not result in exceeding an ambient air quality standard or contributing to a violation of the ozone standard, and impacts would be less than significant.

Operational Impacts. Once constructed, occasional maintenance to the utility boxes would result in negligible air emissions from the project site. Therefore, project impacts from operation would be less than significant.

Mitigation Measures. No mitigation is required.

3c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction Impacts. Sensitive receptors are facilities such as hospitals, schools, convalescent facilities, or residential areas. Project construction would occur in a remote area with a few residences as the nearest sensitive receptors. The nearest residential receptor is located adjacent to the project alignment approximately 40 feet from the edge of the work area. Construction of the proposed project would result in temporary, minor emissions during construction at specific locations along the project alignment and would occur for a minimal amount of time (2 days or less) at any one location along the project site; therefore, sensitive receptors would not be exposed to substantial pollutant concentrations, and the air quality impact would be less than significant.

Operational Impacts. Operation of the proposed project would involve accessing utility boxes for maintenance purposes. Temporary, minor emissions from vehicles accessing the site for maintenance would not expose sensitive receptors to substantial air quality pollutants. Therefore, the air quality impacts on sensitive receptors resulting from operation would be less than significant.

Mitigation Measures. No mitigation is required.

3d) Would the project 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 that exceed quantitative thresholds for ozone precursors)?

Construction Impacts. Siskiyou County is designated attainment or unclassified for all pollutants for the CAAQS and NAAQS. Construction of the project would result in temporary emissions of ozone precursors, oxides of nitrogen, and reactive organic gases. However, because construction is temporary and short-term along the alignment, these emissions would be temporary and would not result in a cumulatively considerable net increase in ozone concentrations. Therefore, the cumulative impact on air quality from construction of the proposed project would be less than significant.

Operational Impacts. Operation of the proposed project would not result in substantial air emissions from maintenance activities; therefore, the cumulative impact on air quality from operation of the proposed project would be less than significant.

Mitigation Measures. No mitigation is required.

3e) Would the project create objectionable odors affecting a substantial number of people?

Construction Impacts. Construction of the proposed project would not create objectionable odors affecting a substantial number of people. Exhaust emissions from construction equipment could result in temporary odors at a localized level, but would not affect a substantial number of people because of the remote location of the project and the extremely localized effect. Therefore, impacts would be less than significant.

Operational Impacts. The types of facilities that could generate odors during operation would be wastewater treatment plants, food processing plants, chemical plants, landfills, dairies, or rendering plants (Sacramento Metropolitan Air Quality Management District, 2009). Operation of a fiber optic broadband facility cable has no potential for generating odors; therefore, there would be no air quality impact.

Mitigation Measures. No mitigation is required.

4.3.4 Works Cited

California Air Resources Board (CARB). 2015. Ambient Air Quality Standards.

California Air Resources Board (CARB). 2014a. Quality Assurance Site List. http://www.arb.ca.gov/qaweb/site.php. Accessed November 18, 2015.

California Air Resources Board (CARB). 2014b. Site Information for Yreka. http://www.arb.ca.gov/qaweb/site.php?s_arb_code=47861. Accessed November 18, 2015.

California Air Resources Board (CARB). 2014c. Air Quality Data Query Tool. http://www.arb.ca.gov/aqmis2/aqdselect.php. Accessed November 18, 2015.

California Air Resources Board (CARB). 2013a. Area Designation Maps/State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

California Air Resources Board (CARB). 2013b. Emission Inventory. http://www.arb.ca.gov/ei/emissiondata.htm. Accessed November 18, 2015.

California Air Resources Board (CARB). 2010. *2010 Monitoring Network Assessment Report*.

Sacramento Metropolitan Air Quality Management District. 2009. *Guide to Air Quality Assessment in Sacramento County*.

U.S. Environmental Protection Agency (EPA). 2015. The Green Book Nonattainment Areas for Criteria Pollutants. October 1. http://www3.epa.gov/airquality/greenbook/index.html.

4.4 Biological Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. **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 DFG or USFWS?	☐	☐	X	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or USFWS?	☐	☐	X	☐
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?	☐	☐	X	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☐	X	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	X	☐
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?	☐	☐	X	☐

4.4.1 Environmental Setting

The project occurs within and along State Highway 96 within the Klamath National Forest. The USFS, Klamath National Forest, manages federal lands within the project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping including grass lawns and exotic flowers.

The Klamath River is a major hydrologic feature of the region and parallels State Highway 96 along the entire length of the project area. The river provides important habitats for both terrestrial and aquatic species including the anadromous summer-run steelhead trout (*Oncorhynchus mykiss irideus*), Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and green sturgeon (*Acipenser medirostris*) (National Marine Fisheries Service, 2014).

Habitats upslope from the Klamath River and project area are characterized by steep, south-facing slopes with coniferous overstories consisting primarily of Douglas fir (*Pseudotsuga menziesii*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*). Understories consist of mixed and scattered forbes, shrubs, and hardwood trees including western swordfern (*Polystichum munitum*), western thimbleberry (*Rubus parviflorus*), huckleberry oak (*Quercus vaccinifolia*), Pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), and big leaf maple (*Acer macrophyllum*). The understory layer is more developed in the lower, wetter locations adjacent to creeks and springs that flow into the Klamath River.

These forested habitats support many special-status and common wildlife species. Table 4-3 lists special-status species potentially occurring within or near the project area (see also Appendix C for habitat assessments conducted within and near the project area). The following list is a selection of common species that are supported by habitats within the range of the project area:

- black bear (Ursus americanus)
- black-tailed deer (Odocoileus hemionus)
- coastal giant salamander (Dicamptodon tenebrosus)
- gray fox (Urocyon cinereoargenteus)
- great blue heron (Ardea herodias)
- hermit thrush (Catharus guttatus)
- long-eared myotis bat (Myotis evotis)
- Northern Pacific rattlesnake (Crotalus oreganus oreganus)
- osprey (Pandion haliaetus)
- spotted towhee (Pipilo maculatus)
- western fence lizard (Sceloporus occidentalis)
- western gray squirrel (Sciurus griseus)

Several noxious weed species are within and adjacent to the project area along the road shoulder of State Highway 96. Existing traffic along with routine ROW maintenance activities (for example, mowing) may provide vectors for spread of noxious weed species. Common noxious weed species within the Caltrans road prism include yellow starthistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), Klamath weed (*Hypericum perforatum*), and Dyer's woad (*Isatis tinctoria*).

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
Invertebrates					
Franklin's bumblebee	*Bombus Franklini*	SSC	Builds hives in abandoned rodent burrows. Forages on flowering forbs and shrubs.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction activity. Not known within 1 mile of the project area.
Mardon skipper butterfly	*Polites mardon*	FC	Fescue-dominated grasslands.	Not known for collections from forested areas of Siskiyou County. Fescue grasslands not observed from roadways.	Suitable habitat does not exist within the project area. Not likely affected by construction activity.
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	Soil-bottomed vernal pools.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
vernal pool fairy shrimp	*Branchinecta lynci*	FT	Soil-bottomed vernal pools.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
vernal pool tadpole shrimp	*Lepidurus packardii*	FE	Soil-bottomed vernal pools.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
Shasta crayfish	*Pacifastacus fortis*	FE	Can be found in perennial riverine systems.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
Fish					
steelhead – summer-run Klamath Mountains Province	*Oncorhynchus mykiss*	SSC	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
coho salmon – Southern Oregon/Northern California coast	*Oncorhynchus kisutch*	FT	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
green sturgeon	*Acipenser medirostris*	FT	Broadcast spawns in large watercourses that reach the ocean, usually within 100 miles of the coast.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
Lost River sucker	*Deltistes luxatus*	FE, SE	Spawns in streams. Can be found in deep lakes and river pools with riffles.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
shortnose sucker	*Chasmistes brevirostris*	FE, SE	Spawns in flowing river habitat, such as riffles, with gravelly or rocky substrates.	None. No suitable habitat observed within the project area.	Not likely affected by construction activity.
Amphibians/Reptiles					
Cascade frog	*Rana cascadae*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring. Not known within 1 mile of the project area.
Oregon spotted frog	*Rana pretiosa*	FT, SSC	Perennially inundated habitats.	Potential to occur in suitable riverine habitats adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring. Not known within 1 mile of the project area.
Del Norte salamander	*Plethodon elongates*	SSC	Mossy rocks on shady, forested slopes.	Documented to occur in habitats beyond the road prism.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring.
foothill yellow-legged frog	*Rana boylii*	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Observed adjacent to the roadway in Wyman Gulch at MP 24.44.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring.
northern red-legged frog	*Rana aurora*	SSC	Breeds in streams, freshwater pools, and ponds with overhanging vegetation. Typically estivates underground in upland habitats near permanent waters.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring. Not known within 1 mile of the project area.
northwestern pond turtle	*Clemmys marmorata*	SSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	Potential to occur in suitable habitat adjacent to the roadway. Appropriate breeding and foraging habitat in slow waters of the Klamath River.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring. Not known within 1 mile of the project area.
Scott Bar salamander	*Plethodon asupak*	ST	Rocky talus slopes beneath canopy cover.	Project area is beyond documented range.	Suitable habitat does not exist within the project area. Not likely affected by construction. Not known within 1 mile of the project area.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
Siskiyou Mountains salamander	*Plethodon stormi*	ST	Rocky talus slopes beneath canopy cover.	Documented range is east of the project area.	Suitable habitat does not exist within the project area. Not likely affected by construction. Not known within 1 mile of the project area.
western tailed frog	*Ascaphus truei*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring.
Birds					
American peregrine falcon	*Falco peregrinus anatum*	D, FP	Nests primarily on cliffs (occasionally constructed structures); forages in a variety of open habitats.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
bald eagle	*Haliaeetus leucocephalus*	D, SE, FP	Typically nests near large bodies of water or free-flowing rivers with abundant fish and adjacent snags and large trees. A known winter migrant.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
California yellow warbler	*Dendroica petechia brewsteri*	SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
Cooper's hawk	*Accipiter cooperii*	SSC	Breeding resident throughout most of the forests and woodlands of California.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
loggerhead shrike	*Lanius ludovicianus*	SSC	Breeds in open habitats interspersed with shrubs and small trees.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
long-eared owl	*Asio otus*	SSC	Dense stands of riparian habitat near meadow edges.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
marbled murrelet	*Brachyramphus marmoratus*	FT	Dense stands of tall conifer near the Pacific Ocean.	Project area is potentially too far from the ocean. No documentation by the Klamath National Forest of marbled murrelet near the project area.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
Merlin	*Falco columbarius*	SSC	Uses many habitats in winter and migration.	May occur as occasional visitor during migration and winter; does not breed in the region.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
northern goshawk	*Accipiter gentilis*	ST	Dense stands of mature conifer forests.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
northern spotted owl and associated critical habitat	*Strix occidentalis caurina*	FT	Dense stands of mature conifer forests and woodlands.	Potential to occur in suitable habitat adjacent to the roadway. Project area is located adjacent to designated critical habitat.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
sharp-shinned hawk	*Accipiter striatus*	SSC	Dense wooded habitats including riparian deciduous and mixed conifer with north-facing slopes.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
western yellow-billed cuckoo	*Coccyzus americanus*	PT	Dense woodlands and thickets near streams.	Potential to occur in suitable habitat beyond the road prism.	Suitable habitat does not exist within the project area. No trees or limbs would be removed. Temporary construction equipment sound levels would not exceed 90 dB. Not likely affected by construction with biological monitoring during the nesting season.
Mammals					
American badger	*Taxidea taxus*	SSC	Known throughout California in multiple habitat types. Requires relatively open, uncultivated ground. Preys primarily on burrowing rodents such as gophers and ground squirrels.	Potential to occur in suitable habitat adjacent to the roadway.	Not likely affected by construction activity.
Humboldt marten	*Martes Americana humboldtensis*	SSC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
Pacific fisher	*Martes pennanti pacifica*	FC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
ringtail	*Bassiriscus astutus*	FP	Woodlands, forests, and chaparral. Usually near water.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
spotted bat	*Euderma maculatum*	SSC	Associated with prominent rock features. Roosts on rock-faced cliffs. Forages in open areas.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Throughout California in a wide variety of habitats. Known to roost in constructed structures such as buildings and mines.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
wolverine	*Gulo*	ST, FP	A variety of habitats in isolated areas.	Potential to occur in suitable habitat adjacent to the roadway. Considered uncommon in California, but known from nearby data records.	Suitable habitat does not exist within the project area. Not likely affected by construction with biological monitoring during the nesting season.
gray wolf	*Canis lupins*	FE, SE	Diversity of habitats including forests, tundra, woodlands, grasslands, and deserts.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. No documentation as occurring within 1 mile of the project area. Work would occur during daylight hours. Not likely affected by construction.
Plants					
Applegate's milkvetch	*Astragalus applegatei*	FE	Seasonally wet floodplains in alkali soils.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not likely affected by construction.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
Applegate stonecrop	*Sedum oblanceolatum*	CNPS 1B	Rocky, upper montane.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
English peak greenbriar	*Smilax jamesii*	CNPS 1B	North coast coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Gentner's fritillary	*Fritillaria gentneri*	FE	Edge of open woodlands at elevations between 60 and 450 feet.	Project area elevation exceeds documented plant occurrences in Siskiyou County. Not observed during survey visit.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Hoover's spurge	*Chamaesyce hooveri*	FT	Vernal pool habitats.	No habitat observed adjacent to project area. Not observed during survey visit.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Howell's tauschia	*Tauschia howellii*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Koehler's stipitate rock cress	*Arabis koeheri var. stipitata*	CNPS 1B	Lower montane coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Marble Mountain campion	*Silene marmorensis*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Parish's alumroot	*Heuchera parishii*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
Shasta chaenactis	*Chaenactis suffrutescens*	CNPS 1B	Forested mountain areas, sand, or serpentinite soils.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.

Table 4-3. Special-Status Species with Potential to Occur in the Project Area

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Common Name	Scientific Name	Status	General Habitat Description	Potential Presence	Rationale
Siskiyou fireweed	*Epilobium siskiyouense*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
slender orcutt grass	*Orcuttia tenuis*	FT	Vernal pool habitats.	No habitat observed adjacent to project area. Not observed during survey visit.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
whitebark pine	*Pinus albicaulis*	FC	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.
white-flowered rein orchid	*Piperia candida*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway.	Suitable habitat does not exist within the project area. Not known within 1 mile of the project area. Not likely affected by construction.

Status Key:
CNPS 1B = California Native Plant Society Rare List 1B
D = Delisted – no longer federally listed as threatened or endangered
FC = Federal Candidate
FE = Federal Endangered
FP = State Fully Protected
FT = Federal Threatened
SE = State Endangered
SSC = State Species of Special Concern
ST = State Threatened

Note:
dB = decibel

Special-Status Species

The assessment of potential project impacts on special-status species and their habitats consisted of reviewing existing database records and performing a reconnaissance survey of the project area and adjacent habitats. The following online databases were reviewed to develop a list of special-status species and habitats that may occur in or near the project area:

- Klamath National Forest
- U.S. Fish and Wildlife Service
- California Native Plant Society
- CDFW California Natural Diversity Database (Ukonom Mountain, Dillon Mountain, and Clear Creek USGS 7.5-minute topographical quadrangles)

A combination windshield/pedestrian survey was used to assess habitat at the proposed project area along State Highway 96. The survey, conducted on June 24, 2014, included both the defined project area within the ROW (including staging areas) and upslope and downslope adjacent habitats. Typical auditory and visual techniques were used to observe and identify wildlife and potential habitat components.

No special-status plants were observed within the project area or the adjacent habitats. Additionally, no special-status plants were observed within the riparian habitat of the culverts to be crossed.

Special-status wildlife observed within the ROW and in the adjacent forested habitat included foothill yellow-legged frog (*Rana boylii*) and nesting osprey (*Pandion haliaetus*). The foothill yellow-legged frog was observed in a constructed concrete and stone drainage channel at Wyman Gulch at MP 24.44. The proposed horizontal drill crossing beneath Wyman Creek (approximately 30 feet if wet or 18 feet if dry) is sufficient to protect aquatic habitat and is unlikely to disturb foothill yellow-legged frogs, as work would be conducted during dry conditions. Two active osprey nests were observed in “broken top” Douglas fir trees approximately 0.25 mile from the project area at MP 20.64 and MP 29.09 (near Browns Creek). Because of this buffer distance, proposed project activities would not disturb the osprey nests or osprey nesting territories. Four additional inactive osprey nests were observed adjacent to MP 20.16, MP 27.26, MP 27.50, and MP 30.18.

A California Natural Diversity Database search indicates the Del Norte salamander (*Plethodon elongates*) has potential to occur near the project area in suitable habitat (that is, loose rock rubble at the base of talus slopes). Moist, undisturbed rocky areas up- or downslope from State Highway 96 may provide suitable habitat for Del Norte salamander, but the specific road prism does not. The roadway consists of a compacted base layer that lacks interstitial spacing, required by salamanders for subsurface activity. No other special-status (terrestrial) wildlife species have been documented as observed within 0.5 mile of the proposed project area (CDFW, 2015). Table 4-3 provides results of the database search, biological reconnaissance survey, and potential for species presence during construction.

Riparian Corridors

The project would include the following 10 minor stream crossings: Douglas Creek, Browns Creek, Allard Creek, Crawford Creek, Wyman Creek, Coon Creek, Elliot Creek, Aubrey Creek, Three Creeks, and Kennedy Creek. Riparian vegetation observed at the crossings include cottonwoods (*Populus spp.*), willows (*Salix* spp.), alders (*Alnus* spp.), oaks (*Quercus* spp.), and maples.

Wetlands

No federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA), occur within the project area.

Several noxious weed species are within and adjacent to the project area along the road shoulder of State Highway 96. Existing traffic along with routine ROW maintenance activities (for example, mowing)

may provide vectors for spread of noxious weed species. Common noxious weed species within the Caltrans road prism include yellow starthistle, Scotch broom, Klamath weed, and Dyer's woad.

4.4.2 Regulatory Setting

Federal

Endangered Species Act of 1973, U.S. Code, Title 16, Sections 1531 through 1543. The federal Endangered Species Act (ESA) and its subsequent amendments protect plants and wildlife (and their habitats) listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service. Section 9 of the ESA specifically prohibits the taking of ESA-protected wildlife and lists prohibited actions. The ESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 *Code of Federal Regulations* [CFR] 17.3). The ESA also governs the removal, possession, malicious damage, or destruction of endangered plants on federal land. Taking is allowed only when incidental to an otherwise legal activity through the ESA Section 7 process for federal agencies and through the ESA Section 10 habitat conservation plan process for private entities.

Migratory Bird Treaty Act, U.S. Code, Title 16, Sections 703 through 711. The Migratory Bird Treaty Act implements international treaties between the United States and other nations to protect migratory birds and their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized by regulation or permit. Examples of authorized activities include USFWS-issued permits to qualified applicants for falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. Regulations governing migratory bird permits are found in 50 CFR 13 – General Permit Procedures and 50 CFR 21 – Migratory Bird Permits.

Invasive Species, Executive Order 13112 (February 3, 1999). Executive Order (EO) 13112 directs federal agencies to prevent and control the spread of invasive plants and animals, and avoid direct or indirect impacts whenever there is a practicable alternative.

***Northwest Forest Plan*.** Adopted in 1994, the *Northwest Forest Plan* is an integrated and comprehensive approach for ecosystem management, intergovernmental and public collaboration, and rural community economic assistance. The mission of the *Northwest Forest Plan* is to coordinate complementary management of Bureau of Land Management- and USFS-administered lands within the range of the northern spotted owl (*Strix occidentalis caurina*) in Oregon, Washington, and northern California. Specifically in California, the *Northwest Forest Plan* applies to all or portions of the Shasta-Trinity, Klamath, Six Rivers, Mendocino, Lassen, and Modoc National Forests.

State

California Endangered Species Act, Fish and Game Code Section 2050 et seq. The California Endangered Species Act (CESA) provides that certain species of fish, wildlife, and plants that are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of California are of statewide concern and should be conserved, protected, and enhanced along with their habitats.

The CESA establishes that it is the policy of the state that state agencies should not approve projects as proposed that would jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy.

Furthermore, the CESA provides that reasonable and prudent alternatives shall be developed by CDFW with the project proponent and the state lead agency that are consistent with conserving the species, while at the same time maintaining the project purpose to the greatest extent possible.

Native Plant Protection Act, Fish and Game Code Sections 1900 through 1913. The Native Plant Protection Act prohibits the taking of listed plants from the wild and requires that state agencies use their authority to conserve endangered and rare native plants. In compliance with the Native Plant Protection Act and CEQA, CDFW would notify project proponents that a rare or endangered native plant is growing within project boundaries and provide information to the project proponents concerning the protection of such plants as may be appropriate. CDFW must also be given 10-day advance notification of a land use change to provide CDFW an opportunity to salvage listed plant species that might be destroyed.

Fish and Game Code Sections 1601 through 1603. Under Sections 1601 through 1603 of the Fish and Game Code, project proponents are required to notify CDFW prior to diverting, obstructing, or otherwise changing the natural flow, bed, channel, or bank of a river, stream, or lake. If CDFW determines that an existing fish or wildlife resource might be substantially adversely affected by proposed project activities, they would issue a Streambed Alteration Agreement to project proponents that includes reasonable measures necessary to protect the resource. Project proponents are allowed to conduct project activities in accordance with the Streambed Alteration Agreement.

Raptors, Fish and Game Code Section 3503.5. Section 3503.5 of the Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Disturbance during the raptor breeding season could result in the incidental loss of fertile eggs or nestlings, or lead to nest abandonment. Although no permits are issued for species protected under this code, coordination with CDFW is required.

Non-game and Migratory Birds, Fish and Game Code Sections 3513 and 3800. Sections 3513 and 3800 of the Fish and Game Code regulate unlawful take of non-game or migratory bird species. Disturbance during the breeding season could cause the incidental loss of fertile eggs or nestlings, or lead to nest abandonment. Although no permits are issued for species protected under these code sections, coordination with CDFW is required.

Local

No local policies are directly applicable to the project site.

4.4.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM BIO-1: To minimize the likelihood of potential adverse effects on nesting birds and raptors, preconstruction nesting surveys would be conducted during the January 31 through August 31 bird nesting season. If active nests are observed prior to construction, a qualified biologist would be retained to monitor construction within 50 feet of the active nest for passerines or 300 feet for raptors.

APM BIO-2: To minimize the likelihood of potential adverse effects on wildlife near the 10 stream crossings, preconstruction wildlife surveys would be conducted. In addition, a qualified biologist would be retained to monitor construction during directional boring activities.

APM BIO-3: To minimize the potential for wildlife to become trapped in open trenches, each excavation would be securely backfilled or covered at the end of each work day. Only excavated onsite native materials would be used to backfill trenches. One side of each excavation would be ramped to allow wildlife egress in the unlikely event that entrapment occurs.

APM BIO-4: Construction access, and material laydown and staging would occur only on existing roads and previously disturbed sites.

APM BIO-5: To reduce the introduction and spread of noxious weeds, the project would use construction equipment that is currently being used near the project area in the Klamath National Forest and Six Rivers Forest. This equipment would not be used elsewhere prior to construction without proper decontamination procedures applied prior to deployment.

APM BIO-6: Spoils known to contain noxious weed propagules or that otherwise do not meet Caltrans backfill specifications would be removed.

APM BIO-7: Temporary construction equipment sound levels would not exceed 90 dB.

Project Impacts and Impact Significance

4a) Would the project 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 CDFW or USFWS?

Construction Impacts. The proposed project would not involve clearing of vegetation from roadways or off-road areas. Construction in the existing roadways would not affect habitats for special-status wildlife species that potentially occur in suitable habitats adjacent to the project area. However, disturbance from construction noise and activities might indirectly affect special-status wildlife species. Although unlikely, special-status wildlife species could also be inadvertently injured or killed by construction vehicles traveling and working on the roadways. To minimize these potential adverse effects, preconstruction surveys and biological monitoring would occur during the breeding season (January 31 to August 31) (see APMs BIO-1 and BIO-2). In addition, sound levels would not exceed 90 dB (see APM BIO-7). Lastly, the proposed directional boring construction under the 10 stream crossings would reduce adverse project effects on riparian and aquatic species and their associated habitats. These measures would reduce the potential for impact on migratory birds and other regional special-status species to less than significant.

Suitable habitat for northern spotted owl, a federally and state-listed species, includes pine forested areas such as the stand that comprises the project area. Although the project area is within designated critical habitat for the northern spotted owl, there is no confirmed documentation of occurrences within 1 mile of the project area (CDFW, 2015). Because the proposed project would not require tree or snag removals or de-limbing there would be no direct impacts on potential spotted owl nesting cavities or roosting perches or designated critical habitat. Potential indirect effects on spotted owl would not be detrimental and are detailed below.

The Arcata Fish and Wildlife Field Office recently published guidance information for project activities that estimate effects of auditory and visual disturbances on northern spotted owl (USFWS, 2006). According to USFWS, spotted owls are considered harassed when exposed to noise disturbances that exceed 90 dB at a distance of less than 500 feet or are subject to noises 25 dB above ambient background levels. According to specifications provided online by the Federal Highway Administration (FHWA) construction handbook (FHWA, 2015), noise emitted from construction equipment proposed for use by Siskiyou Telephone would not exceed 89 dB (paving equipment is rated as loudest). Noise levels provided by the FHWA construction handbook are measured 50 feet away from the source. A typical backhoe is measured at 78 dB. A chainsaw is measured at 84 dB. USFWS rates ambient background noise from vehicle traffic on light-duty paved roadways, such as State Highway 96, as between 71 and 80 dB (USFWS, 2006).

Because State Highway 96 road corridor ambient noise is estimated between 71 and 80 dB, construction equipment proposed for use by Siskiyou Telephone would emit no more than 9 to 18 dB above ambient background noise. Construction activity proposed would also be measured below the established

tolerance threshold for northern spotted owl nesting within 500 feet from the road corridor. Construction activities would be temporary, lasting up to 6 months over a 2-year period. Additionally, because of the linear nature of the project, construction activities are not expected to be constant at any individual location throughout the entire construction period; some locations may experience a few days of significant activity that would then progress to a different location. Therefore, temporary road construction noise as a result of project implementation would not be defined as harassment (take) of spotted owls nesting within 500 feet of State Highway 96. According to the guidance provided by the Arcata Fish and Wildlife Office (USFWS, 2006) and the specifications provided by FHWA (2015), owls nesting within 500 feet of the road corridor may be subject to temporary noise disturbance at levels defined as high (81 to 90 dB), but would not be subject to noise disturbance levels defined as harassment (90 dB+). This reasoning can be extended to other potentially occurring special-status wildlife species, including those listed in Table 4-3. Therefore, construction of the project would result in a less than significant impact under this criterion.

Operational Impacts. During project operation, it is anticipated that minimal maintenance of the proposed project components would be required within the roadway and at utility boxes; therefore, minimal disturbance to special-status species would occur, and operation of the project would result in a less than significant impact under this criterion.
Mitigation Measures. No mitigation is required.

4b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Construction Impacts. Construction would occur in existing roadways and road shoulders, and would not directly adversely affect riparian habitat or other sensitive natural communities. An SWPPP and erosion and sediment control BMPs would be implemented to prevent offsite sediment discharges to adjacent riparian habitats (see Section 4.9, Hydrology and Water Quality). The project would bore under the following 10 minor streams: Douglas Creek, Browns Creek, Allard Creek, Crawford Creek, Wyman Creek, Coon Creek, Elliot Creek, Aubrey Creek, Three Creeks, and Kennedy Creek. These streams would be crossed under the direct supervision and consent of CDFW's Section 1600 Stream Alteration Agreement. As described above, the stream crossings would be a minimum of 30 feet below the streambed if water is present and 18 feet below the streambed if dry. No standing trees would be removed or trimmed. With the directional boring and implementation of the SWPPP, impacts on riparian habitats would be less than significant.

Operational Impacts. During project operation, it is anticipated that minimal maintenance of the proposed project components would be required. Therefore, minimal disturbance to riparian habitat or other natural communities is anticipated, and operation of the project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

4c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Construction Impacts. Construction would occur in existing roadways and not directly affect jurisdictional wetlands or waters of the United States. An SWPPP and erosion and sediment control BMPs would be implemented to prevent offsite sediment discharges to adjacent riparian habitats (see Section 4.9, Hydrology and Water Quality). Impacts on federally protected wetland habitats would be less than significant with implementation of the SWPPP and directional boring under the 10 streams that intersect with the project area.

Operational Impacts. During project operation, it is anticipated that minimal maintenance of the proposed project components would be required. Therefore, minimal disturbance to federally protected wetlands is anticipated, and operation of the project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

4d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

Construction Impacts. Construction would occur in existing roadways and, therefore, not adversely affect fish movement. Although the project roadways do not provide suitable habitat, wildlife likely cross the roadways when moving among adjacent suitable habitats. To minimize potential adverse effects on wildlife moving through the project area during nonworking hours, trenches would be covered or backfilled at the end of each work day (see APM BIO-3). Covering trenches would also prevent wildlife from becoming trapped. Therefore, adverse impacts on wildlife movement would be less than significant if trenches are covered or filled during nonworking hours.

Operational Impacts. During project operation, it is anticipated that minimal maintenance of the proposed project components would be required. Therefore, minimal disturbance to wildlife migration corridors or breeding habitat is anticipated, and operation of the project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

4e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Construction Impacts. Construction activities would not require the removal of trees. USFS is concerned about the introduction and spread of noxious weeds to USFS lands by construction equipment delivered from outside the Klamath National Forest. To reduce the potential for spreading noxious weeds, Siskiyou Telephone would use equipment currently working nearby in the Klamath National Forest, and the equipment would not be used outside of the general area prior to project construction (see APM BIO-5). In addition, Siskiyou Telephone would coordinate with USFS and implement specified weed control measures, and the project would not conflict with local policies or ordinances. Therefore, adverse project effects on the spread of noxious weeds would be less than significant if equipment currently working in Klamath National Forest is used and weed control measures are implemented.

Operational Impacts. During project operation, it is anticipated that minimal maintenance of the proposed project components would be required. Therefore, no conflicts with local policies or ordinances are anticipated.

Mitigation Measures. No mitigation is required.

4f) Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

Construction Impacts. Klamath and Six Rivers National Forest lands in the project area are managed under the *Northwest Forest Plan*. Managed as General Forest, habitats adjacent to the project area contain a mixture of riparian reserve and matrix allocations. Riparian reserves emphasize the conservation of aquatic- and riparian-dependent terrestrial resources and include wetlands, ponds, and lakes. In contrast, silviculture and timber harvest are emphasized on matrix lands; however, there are no other adopted habitat conservation plans, natural community conservation plans, or other approved local plans.

Construction would occur in existing roadways and not adversely affect riparian reserves or habitats. The project would not conflict with the *Northwest Forest Plan*. Project impacts on riparian reserves would be less than significant with implementation of an SWPPP and directional boring under the 10 streams that intersect with the project area.

Operational Impacts. The project would not conflict with the *Northwest Forest Plan* or local, regional, or state habitat conservation plans. Therefore, no impact is anticipated as a result of operation.

Mitigation Measures. No mitigation is required.

4.4.4 Works Cited

California Department of Fish and Wildlife (CDFW). 2015. California Natural Diversity Database Rarefind 5. Online data provided by the Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.

Federal Highway Administration (FHWA). 2015. *Handbook of Construction Equipment Noise Levels and Ranges.* http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm.

National Geographic Society. 1987. *Field Guide to the Birds of North America*. Second edition. Washington D.C.

National Marine Fisheries Service. 2014. Online species information. http://swr.nmfs.noaa.gov/. Accessed June 20, 2014.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Boston, MA: Houghton Mifflin Company.

Thorp, R.W. 2005. "Species profile: *Bombus franklini*" in Shepherd et al. *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland OR: The Xerces Society for Invertebrate Conservation.

U.S. Fish and Wildlife Service (USFWS). 2015. Online database. http://ecos.fws.gov/ipac/. Accessed December 14, 2015.

U.S. Fish and Wildlife Service (USFWS). 2006. *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*. Arcata Fish and Wildlife Office. Arcata, California. July 26.

4.5 Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. **Cultural Resources.** Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	X
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	X	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	X	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	X	☐

4.5.1 Environmental Setting

The proposed project lies within the Caltrans ROW of maintained State Highway 96, which also traverses the Klamath National Forest. USFS manages federal lands within the project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping, including grass lawns and exotic flowers.

Natural Setting

The project area is in the Lower Klamath Basin of the greater Klamath Basin. The Lower Klamath Basin consists of the west section of the Upper Klamath Subbasin and six hydrologic subbasins: Shasta, Scott, Lower Klamath, Salmon, Trinity, and South Fork Trinity. The Lower Klamath Basin includes the mouth of the Klamath River in the northwest coast region of California and comprises an area of 7,628 square miles. The Lower Klamath Basin lies in the dynamic Cascade Mountains fore-arc area, as evidenced by the steep, rugged watersheds of the Salmon and Trinity Rivers. Forest land dominates this landscape (USFS, 2007). The proposed project is adjacent to the Klamath River.

Precipitation in the project vicinity occurs mostly as rainfall in the lower elevations, with snow occurring at the higher elevations. Fort Jones Ranger weather station (043182) climatic data indicate the average rainfall for the project area is approximately 21 inches, and average snowfall is approximately 19 inches. Most precipitation occurs between October and March.

The average annual temperatures range from a low of 33 degrees Fahrenheit to a high of 67 degrees Fahrenheit (Western Regional Climate Center, 2004).

The project area is in the Klamath Mountains Geomorphic Province, which is characterized by uplifted and dissected mountain ranges that generally run north-south. The widely varied granitic, metamorphic, and sedimentary materials found in the Klamath Mountains provided well for local prehistoric populations whose tool kits predominately consisted of stone tools (Moratto, 1984).

The Klamath River is a major hydrologic feature of the region and parallels State Highway 96 along the entire length of the project area. The river provides important habitats for both terrestrial and aquatic species including the anadromous summer-run steelhead trout (*Oncorhynchus mykiss irideus*), Chinook salmon (*Oncorhynchus tshawytscha*), and coho salmon (*Oncorhynchus kisutch*) (National Marine Fisheries Service, 2013).

Historically, several species within the cedar-hemlock-Douglas fir forest biotic community were present that are no longer found in numbers or, in some cases, at all. Rivers in northern California were prehistorically and historically so full of salmon that accounts of horses reluctant to cross rivers full of spawning salmon are extant. However, by 1870, the best salmon fisheries had been largely destroyed by mining, over-harvesting, and deforestation. Despite the historical impacts on fisheries in the area, the Klamath River is a popular location for commercial and sport fishing of salmon, trout, and other fish (Congressional Research Service and The Library of Congress, 2005). Two species of elk, Rocky Mountain and Roosevelt, once found within the project area, are now only found in small pockets outside of Siskiyou County. Grizzly bears ranged in the area, as did bighorn sheep; neither is found within Siskiyou County any longer. In fact, the last California grizzly bear was seen in eastern Tulare County in 1924, and bighorn sheep are limited to southeastern California (Moratto, 1984).

Current Land Use

The project area has historically been used for mining, logging, and ranching; and these activities continue to the present day. Current land uses in the project vicinity include rural residential, horse and cattle ranching, dredging for minerals, general forest, and recreation.

Cultural Context

The following discussion about the prehistory of the project area is taken from Frederickson's review of the north coastal region of California (1984) and from Hildebrandt's review of northwest California (2007). This discussion of the northwest region does not begin prior to the Terminal Pleistocene era circa 12,000 before present. Although more sites in North and South America are beginning to be accepted as dating to earlier times, none have been documented within the project area.

The general trend throughout California prehistory has been an increase in population density over time, coupled with greater sedentism and the use of a greater diversity of food resources. Chartkoff and Chartkoff (1984) identified three major periods of prehistory observed throughout California: Pre-Archaic, Archaic, and Pacific. These patterns are roughly correlated with the Paleoindian, Archaic, and Emergent Periods, developed by Fredrickson (1984) for north coastal California. Frederickson further subdivided the Archaic Period into Lower, Middle, and Upper. These divisions are explored by Hildebrandt (2007) on the basis of archaeological excavations that occurred after Fredrickson proposed his divisions in 1984 (see Table 4-4). Hildebrandt examined four time periods that roughly correlate with Fredrickson's time periods. Hildebrandt's Late Holocene Period encompasses both the Upper Archaic and Emergent Periods as defined by Fredrickson. Hildebrandt divided the northwest region of California into two subdivisions: the northern division, which includes the coastal counties of Del Norte and Humboldt and the inland counties of Siskiyou and Trinidad, and the southern division, which includes the coastal counties of Mendocino and Sonoma and inland Lake County.

Table 4-4. Chronological Summary for Siskiyou County, within the Northwest Region of California
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Time Period		**Characteristics**	
Frederickson (1984) North Coastal Region	**Hildebrandt (2007) Northwest Region**	**Site Type**	**Chronological Markers**
Paleoindian Period: 10000 to 6000 B.C.	**Pleistocene/Holocene Transition:** 11500 to 8000 B.C. Post Pattern (not well defined in inland Siskiyou County)	Small, mobile populations hunting big game.	Large, fluted lanceolate projectile points, chipped stone crescents.
Lower Archaic Period: 6000 to 3000 B.C. Borax Lake Pattern, Borax Lake Aspect	**Early Holocene:** 8000 to 5000 B.C. Borax Lake Pattern	Increase in population densities with sedentism and wide range of environments used (that is, coastal littoral) and earliest evidence for acorn use.	Use of milling slabs, wide-stem projectile points, indented bases on projectile points, serrated bifaces, ovoid flake tools.
Middle Archaic Period: 4000 to 2000 B.C. Borax Lake Pattern, Borax Lake Aspect	**Middle Holocene:** 5000 to 2000 B.C. Mendocino Pattern	Temporary hunting camps, seasonal encampments, and exploitation of resources. Along rivers, such as the Klamath River, a more sedentary riverine lifestyle has been proposed. (Very little evidence in inland Siskiyou County.)	Change in projectile point typology to side-notched, corner-notched, concave-base dart points; cobble mortars and pestles; manos milling slabs; flake and cobble tools.

Table 4-4. Chronological Summary for Siskiyou County, within the Northwest Region of California
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Time Period		Characteristics	
Upper Archaic Period: 2000 B.C. to A.D. 500 Borax Lake Pattern, Borax Lake Aspect	**Late Holocene:** After 2000 B.C. Mendocino Pattern (continues until A.D. 500; sparsely documented) Gunther Pattern (A.D. 500 to Historic Era)	Increase in populations, increase in food processing techniques.	Manos milling slabs, flake and cobble tools, cobble mortars and pestles.
Emergent Period: A.D. 500 to Historic Era Gunther Pattern		Increase in sedentary populations, permanent settlements, full exploitation of natural resources, stored staple foods, long trade networks, complex political systems. Differentiation in burial items reflects social stratification.	Well-defined houses of redwood with stone patio porches and clay floors, cemeteries, artifact caches, midden. Ocean-going canoes. Bow and arrow replaced atlatl, small projectile points, bone and antler harpoon points, woodworking tools, ceremonial obsidian bifaces, ground stone zoomorphs, Gunther barbed arrow points, baked clay figurines.

Sources: Fredrickson, 1984; Hildebrandt, 2007

The **Post Pattern** is the earliest pattern recognized in the northwest region of California and appears to date from the transition of the Pleistocene to the Holocene, approximately 11500 B.C. to 8000 B.C. Assemblages include Clovis points and chipped stone crescents. Subsistence strategies are represented by a highly mobile hunting and gathering pattern, and populations were small. The Post Pattern is not found within inland Siskiyou County, California, nor is it well defined in the overall region. Finds in the region, which could date to the Post Pattern, are generally limited to isolated artifacts and old deposits found well south of the project area, with material that cannot be dated, such as those near Clear Lake in Lake County (Hildebrandt, 2007).

The **Borax Lake Pattern** dates from approximately 8000 to 5000 B.C. within the northwest region. The period is typified by wide-stemmed points and indented base points, serrated bifaces, ovoid flake tools, manos, milling slabs, and edge-flaked spalls. A wide range of environments were exploited during the Borax Lake Pattern. One well-developed site near Clear Lake has been argued to be representative of a northern California variant of the Millingstone Horizon (Hildebrandt, 2007).

The **Mendocino Pattern** has an apparent age of approximately 3000 B.C. to A.D. 500 within the northwest region. This pattern is not well defined in its earliest years, and is represented by side-notched, corner-notched, and concave-base darts; manos milling slabs; flake and cobble tools; and cobble mortar and pestles. Sites appear to fall within one of two categories: temporary hunting camps or seasonal encampments of groups that subsist primarily on terrestrial resources. Interior sites of this pattern are generally found along rivers and appear to represent either temporary hunting camps or short-term residential bases. Within the northern mountains of this region, many of these camps appear to be specialized hunting camps, and sites close to the rivers appear to be more sedentary and based on harvest and storage of salmon and acorns.

The **Gunther Pattern** dates from approximately A.D. 500 into the Historic Era and is named for a site on Gunther Island in Humboldt Bay. According to some sources, the Gunther Pattern represents the influx of the Algic (Algonkian language family) speakers into the Humboldt Bay area, with the Wiyot arriving in the area around A.D. 100 and the Yurok arriving in the area around A.D. 700 or 800 (Golla, 2007).

Villages of this period were well defined. Permanent residences were made of redwood, some with stone patios and clay floors. Cemeteries and midden areas were separated from living areas. Riverine resources were heavily exploited with the use of bone and antler hooks, harpoons, spears, net sinkers, and other fishing gear. Gunther barbed projectile points are typical of this pattern. Concave-base points were used to tip composite harpoons. Differentiation in burial goods appears to represent social stratification; well-made and valuable goods have been found interred with a wide range of ages, but few burials contain such goods. Ceremonial items include large obsidian blades. Ground and polished stone artifacts with artistic elaboration, flanged pestles, steatite bowls, polished stone adze handles, and zooform clubs are found with Gunther Pattern sites (Hildebrandt, 2007; Frederickson, 1984).

Ethnography/Ethnohistory

The project area is located in a transition area where the Karuk (a federally recognized tribe) and the Shasta territories met. The Shasta village site of *Sam'ay* was located in the Seiad Valley, and several Karuk villages, *Patsiriris, Akramurum, Yuxtoy, Xansifi Kiri, Pipta'as,* and *Pikiawish* (a World Renewal Ceremony site), were located in or near the project area. Additionally, the project area is within a Klamath National Forest Cultural Management Area, Inam, and is currently being evaluated for eligibility for the National Register as a Traditional Cultural Property. The area continues to be used every year for Karuk cultural ceremonies.

The Shasta. Kroeber (1925) combined six contiguous northern California groups under the term "Shastan." One of these groups, the Shasta, occupied the northerly portions of present-day Siskiyou County from south of Callahan, along the Scott River, to the Rogue River in southwestern Oregon. Curtis (1924a) recorded the Shasta living along the ridge of the Siskiyou Mountains and the drainage of the Klamath River, near Happy Camp, and southward and eastward along the edge of the Scott River and the Shasta River drainage areas to Mount Shasta. The Shasta were composed of several groups and had distinct names for each of these groups. Within the project location, the Kammatwa, who spoke a dialect not understood by other Shasta, occupied the area from the Seiad Valley to the Scott River and up the Scott River to Scott Bar (Curtis, 1924a). Directly adjacent to Kammatwa territory were the Iruwaitsu (Iruaíťsuhis) who occupied the Scott Valley starting a few miles outside of Fort Jones and ending at Kammatwa territory.

The Shasta language was derived from the Hokan dialect. The name appears to have been derived from the name of an important person, perhaps a chief, named Sasti (Kroeber, 1925). The Shasta have also been referred to as the Saste, Shasty, and the Shastika. Historically, the Shasta population was sparse, and, today, there are few remaining true Shasta. Several groups living in and near Mount Shasta and in Shasta County are sometimes referred to as Shasta, even though they are not the historic Shasta (Kroeber, 1925).

The Shasta lived in the valley bottom, surrounded by uplands. Most of their territory was above 2,500 feet elevation. Villages in Scott and Shasta Valleys were usually located at the valley edges, along creeks. The Shasta of the two valleys and the Klamath River area had much friendly interaction interspersed by feuds. The Shasta were known to have fought battles with the neighboring Wintu. The Shasta also were often in a state of warfare with the Modoc, who raided Shasta territory each summer. The Shasta appeared to have more friendly relations with the Karuk (Silver, 1978). A map created by Rock (1975) shows the locations of several ethnographic Shasta villages in the project vicinity, including *Ha'kah-tok* and *Ko-waldn'an-nan*, near where the Scott River branches south off of the Klamath River; two villages [names are not readable] near present-day Hamburg; and *Habs-ko-nuh'-ra* and *Xaskuwa*, located east of the Klamath River and south of the present-day community of Horse Creek.

The Shasta actively traded with neighboring groups and were an intermediary in trade between coastal and inland groups. Common trade items that flowed in or out of Shasta territory included obsidian, buckskin, acorns, shell and shell beads, baskets, pine nuts, wolf skins, woodpecker scalps, dried fish, and pepperwood gourds (Silver, 1978). Each large Shasta village had a headman, and each village claimed a

definable territory with privately held hunting and fishing areas. The principal duty of a chief consisted of mediating disputes and maintaining the peace of the village. Permanent rectangular family houses were abandoned in spring for simple brush huts. Shasta winter structures were constructed over 3- to 4-foot-deep rectangular excavations with poles and bark. The center of the structure had a smoke hole, and the door was covered with a tule mat. A communal sweat house, primarily used by unmarried men and widowers, was a circular structure with numerous rafters and covered with bark, pine needles, and dirt (Curtis, 1924a).

As among other groups in inland California, the most important food resources were deer, salmon, and acorns, supplemented by a vast array of other resources. The Shasta would occasionally hunt elk, as well; a group of men in snowshoes could run down an elk in deep snow. Small game, such as rabbits and ground squirrels, were also hunted. Black bear were hunted by a hunting party of several men, and grizzlies were occasionally hunted as well (Curtis, 1924a). Tobacco was the only cultivated crop (Silver, 1978). Acorns were generally consumed in a mush. Salmon were caught in wicker traps and nets, sun-dried, and then mixed with other ingredients, such as sugar pine nuts, crushed, and made into cakes (Curtis, 1924a).

Technologies included basketry and use of pipes; mush paddles; spoons; and flaked-stone scrapers, awls, knives, and projectile points. Several materials, including pitch and fish, were made into adhesives. The Shasta made cylindrical pestles and soapstone vessels, and containers also were made of hide. Cordage and netting were made from wild hemp and grapevine. The Shasta made painted sinew-backed wooden bows and matching painted arrows. Elk hide and stick armor were used for battle (Silver, 1978).

The arrival of Europeans to the area was disastrous to the Shasta. According to Gibbs (1853, as cited by Silver, 1978), the whites “had determined to wage a war of extermination against the Indians on the upper Klamath and its tributaries.” By the 1870s, Shasta culture had been seriously disrupted, and the Shasta people sought solace in various religious movements, such as the Ghost Dance religion and Earth Lodge cult. Very few of the Shasta survived into the latter decades of the twentieth century, and their language and culture are nearly extinct. Contemporary survivors are attempting to revive aspects of their traditional language and culture (Silver, 1978).

The Karuk. Many similarities are noted between the Karuk and Yurok cultures (Kroeber, 1925). Karuk society consisted of a series of villages located in favorable spots along waterways such as the Klamath and Salmon Rivers, which were optimally used both for their resources and for conveyance (Palmer, 1980). Edward Curtis (1924b), during his travels through the region in the late 1800s, noted the Karuk living along the banks of the Klamath River from a few miles north of Happy Camp down to Redcap Creek in Humboldt County. Karuk villages generally consisted of several family houses and sweat lodges constructed of sugar pine planks. Most of these villages consisted of two or three to six structures. The largest village Curtis noted consisted of approximately 15 families (Curtis, 1924b). Karuk villages were interlinked by a system of ritual and ceremonialism, a system not duplicated in any other tribal religion save among the Yurok and Hupa (Palmer, 1980).Within the project area, villages and World Renewal Ceremony sites have been ethnographically documented, including the following: *Patsiriris*, *Akramurum*, *Yuxtoy*, *Xansifi Kiri*, *Pipta’as*, *Inam*, and *Pikiawish* (Bright, 1957; Palmer, 1980).

The Karuk focused on ancestral worship and veneration of family histories (Palmer, 1980). Ceremonies, traditions, and festivals united villages and the Karuk into one cultural system (Palmer, 1980). One of the most sacred of ceremonies was the World Renewal Ceremony in which the Karuk performed rituals that re-enacted the creation of the world in order to renew the world and provide for its well-being. Karuk holy men would beseech sprits to preserve the world and prevent natural disasters; they would pray for community growth, health, and success (Native American Heritage Commission, 1998). This ceremony has been in practice since prehistoric times and continues to be observed to date.

The Karuk did not have chiefs; instead, the richest men in the villages wielded the power. The wealthiest personages sponsored the important ceremonies key to Karuk society. Karuk ways of life centered on

the Klamath and Salmon Rivers, and fishing represented the primary subsistence activity. Fish were caught with nets, harpoons with detachable points, and hooks (Bright, 1978).

Hunting and gathering of land resources and firewood were practiced at seasonal camp sites located near resource locations. Karuk cultivated tobacco. Deer and elk were hunted, frequently with the assistance of domesticated dogs. As with many other California groups, acorns were an important food source to the Karuk (Bright, 1978).

During the Gold Rush years, many Karuk villages were burned, and the villagers moved into the mountains, away from the miners. Karuk village sites located in attractive areas along the Klamath and Salmon Rivers were often built upon by Europeans. Mining activities declined in the late 1800s, and the Karuk returned to the original locations of their villages and rebuilt (Curtis, 1924b). Many ceremonies, including the World Renewal Ceremony, have been revived in recent years (Bright, 1978; Palmer, 1980).

California Historic Era (1769 A.D. to Present)

Although the Historic Era is generally accepted to have started with Spanish control of California, prior to 1769, albeit sporadic, exploration by Europeans of California had been ongoing since 1542. In 1542, Juan Rodriguez Cabrillo first explored the California coast by ship, entering San Diego Bay and claiming Alta California for Spain. By March 1543, Cabrillo had reached the Oregon Coast and is credited with discovering and naming Cape Mendocino (Wells, 1881). Captain Francis Drake, in an attempt to discover a northern passage to England from the Pacific Ocean as well as establish an English foothold among the Spanish- and Portuguese-dominated Americas, began explorations in 1577. In 1579, while sailing in an area thought to be near Washington State, Drake's journey was impeded due to inclement weather. Drake was forced south and landed in present-day Drake Bay, near San Francisco, where he remained for 36 days (Wells, 1881). By the 1640s, maritime Russian expansion had reached the eastern Pacific Ocean; resource procurement, specifically the fur industry, brought the Russian explorers to the American mainland. Russian colonization was primarily in the territory today known as Alaska, with some holdings found in present-day northern California (California Academy of Sciences, 2001). Although European interests were being established in many parts of California, the project area, because of its remote location, remained relatively unexplored by Europeans until the Gold Rush Era.

In California, the Historic Era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish or Mission Period. The Historic Era in California traditionally begins with the establishment of Spanish Colonial military outposts, the first of which was Mission San Diego de Alcalá, built in 1769. The 1770s saw a number of Spanish expeditions and surveys travel across the desert areas of southern California; however, Spanish exploration of northwestern California did not take place at any significant level during this period. Whereas southern California was heavily affected by Spanish exploration, northern California would be affected primarily by English and French fur trappers and traders during this period; Russian seal trappers, who frequented areas near coastal territories, also ignored the project area because the region did not support a seal habitat and, therefore, held no value to the trappers. Although some parts of modern northern California were under control of Russian settlements, the nearest to the project area was found in Sonoma County in 1812 (Wells, 1881). No mission was ever founded in the region, and the nearest and most northernmost mission was in Sonoma, about 300 miles south of the project.

Mexican or Rancho Period. Mexico became independent of Spain in 1821; and the Decree of Secularization, passed in 1834, effectively ended the Mission Period in California. The following years were marked by the proliferation of cattle ranching throughout most of California, as the Mexican governor, Pio Pico, granted vast tracts of land to Mexican (and some American) settlers. The former mission lands were then opened for grants by the Mexican government to citizens who would colonize the area and develop the land, generally for grazing cattle and sheep (Lech, 2004).

The newly appointed Mexican government demanded that all who had received land grants from Spain show proof of land ownership. In the 1830s, land disputes greatly reduced the lands of many ex-Spanish soldiers who had been granted lands by the Spanish government.

No significant Mexican holdings existed in the project area during this period.

American Period. Following the signing of the Treaty of Guadalupe Hidalgo in 1848, the United States took possession of California. The treaty bound the United States to honor the legitimate land claims of Mexican citizens residing in captured territories. The Land Act of 1851 established a Board of Land Commissioners to review these records and adjudicate claims, and charged the Surveyor General with surveying confirmed land grants. To investigate and confirm titles of California, American officials acquired the provincial records of the Spanish and Mexican governments that were located in Monterey. Those records, most of which were transferred to the U.S. Surveyor General's Office in San Francisco, included land deeds and sketch maps (Gutierrez and Orsi, 1998).

From 1852 to 1856, a Board of Land Commissioners determined the validity of grant claims. The commissioners rejected many of the original land claims, which then became public domain and fair game for squatters. Ranch titles represented little as collateral. Although the claims of some owners were eventually substantiated, many of the owners lost their land through bankruptcy or the inability to meet the exorbitant interest on their legal debts. Many of the original rancho owners eventually lost their land to the United States. Unsurveyed land boundaries created a loophole through which squatters could occupy plots on the fringes of land grants and eventually come to own those plots through squatters' rights (Gutierrez and Orsi, 1998).

In 1848, gold was discovered in California; and by 1849, the Gold Rush was in full effect with many speculators from the eastern United States and European countries flocking to California to make their fortune. The discovery of gold added to the burden of Native American Tribes. For the project area, it was during this period that a maintained significant presence by Americans and Europeans in the area occurred. Population estimates of the time did not include Native Americans; but it is believed that before the Gold Rush there were approximately 4,000 Europeans, Mexicans, and others in California. Directly following the Gold Rush, there were an estimated 26,000 people, again, not including Native Americans, within the modern California territory (Wells, 1881).

In 1862, the National Homestead Act was enacted, which allowed potential farmers and ranchers the opportunity to acquire government land for a nominal filing fee, in addition to adhering to several specific stipulations. Americans had already begun to settle in California, following land grant annulments and the Pre-Emption Act of 1853, which allowed squatters to purchase a quarter section of public lands for $1.25 per acre. However, the 1862 National Homestead Act opened up the west for a more aggressive rate of settlement by Americans and European immigrants.

Siskiyou County. The first explorers appear to have traveled into Siskiyou County via the Siskiyou Trail, which runs through the county, connecting the Central Valley of California and the Pacific Northwest. Russian trappers could have been among the first explorers in the area, possibly as early as 1825. In 1827, Native Americans, likely Shasta or Takelma, guided Peter Skene Ogden, Stephen Meek, Thomas McKay, and others of the Hudson's Bay Company over Siskiyou Summit and along the Siskiyou Trail. The Siskiyou Trail was opened by Ewing Young in the 1830s. Young drove cattle from California into the Willamette Valley for American settlers.

The area of western Siskiyou County is composed of three major valleys –Scott Valley, Quartz Valley, and Seiad Valley – and the rugged mountain ranges that surround these valleys. The early history of the region is closely bound to the Gold Rush. Gold was first discovered in the South Fork of Salmon River above Cecilville in 1849. Six weeks later, more than 2,000 miners had arrived in the area. Gold was discovered by John W. Scott at the later-named Scott's Bar in 1850 (Fiorini-Jenner and Hall, 2002). Miners continued to move into the region in large numbers throughout the early 1850s. The early days

of mining in the area saw the use of a variety of hand placer mining methods. Eventually, miners employed wing dams, flumes, and tunnels and, more recently, bucket-line and dragline dredges. Hydraulic and drift mining, including hard-rock mining, also occurred. Siskiyou County was named after the mountain ranges that feed the waters of the Rogue and Klamath Rivers; Siskiyou is also a place name for a tribal ground shared by the Rogue, Klamath, and Shasta Tribes (Wells, 1881). Siskiyou County was originally created in 1852 from the northern part of Shasta County and portions of Klamath County; however, the modern boundaries were not established until 1901. Regardless of shifting boundaries, Yreka has continuously been the county seat (Hoover et al., 1990; Gudde, 1960).

The heavy influx of miners into the area created tension between the newly arrived Americans and the original residents. Between 1872 and 1873, a small band of Modoc fought against the U.S. Army to remain on their traditional lands. The Modoc kept the Army at bay for more than 7 months by hiding among the lava beds of Tule Lake. The Modoc War was the last armed Native American resistance in California (Palmquist, 1977).

The Central Pacific Railroad was completed in the 1880s, and the first tourists in search of excellent fishing and hunting ventured into Siskiyou County. The early 1900s saw an increase in logging in the area. Ranching and agriculture became important as well, particularly in the valleys. In the 1940s, backers of the State of Jefferson sought to create a new state from many of the counties in northern California and southern Oregon. Efforts to create the State of Jefferson flagged at the outset of World War II. The flag of the State of Jefferson is still flown in areas of Siskiyou County (Hendryx et al., 2003).

Communities in the Project Region

As a direct result of the Gold Rush and general mining, several communities, such as Somes Bar, Clear Creek, Fort Jones, Hooperville, Scott Bar, and Seiad Valley, were established in the project area, along what is today State Highway 96, in Siskiyou County. A summary of two of the original mining communities follows.

Hamburg. During the 1850s, the community of Hamburg grew to a bustling town of approximately 5,000 people. The area was known to be a good source of mineral diggings, and a form of mining involving wing dams was developed in the area. Most of the population during the late 1850s were Chinese. At the height of the rush, Hamburg had three stores, saloons, a hotel, a rooming house, and a livery stable, and was a stop along the stagecoach route. After the Civil War, logging became an important local industry. The Swartz Mill and Walter Morgan's Mill were constructed at Hamburg and Hamburg Gulch, respectively. Logs were moved to the mills via the rivers or hauled out of the area on high-wheeled logging wagons (Fiorini-Jenner and Hall, 2002). The Maplesden Sawmill in Hamburg supplied lumber to local carpenters who constructed many of the large water wheels used in local mining operations. Many of the buildings were washed away in the winter of 1861/1862 when the Klamath River flooded. Many of the town buildings were rebuilt; however, the population never again reached the mining boom years. At present, the community is a small collection of residents and the Hamburg store.

Happy Camp. During the population boom of the Gold Rush in California, the Siskiyou region drew in prospectors from the eastern United States as well as from abroad. The area today known as Happy Camp was first inhabited by Euro-Americans pioneers for mining resources (SiskiyouHistory.org, n.d.). Happy Camp was officially settled in July 1851 by Charles McDermit, Abisha Swain, Gwin R. Tompkins, Charles D. Moore, Thomas J. Roach, L.H. Murch, J.H. Stinchfield, Cochrane, Jeremiah Martin, William McMahon, and James Carr (Wells, 1881). By 1877, the mining at Happy Camp was under management by James Camp and Company, who additionally managed other mining facilities in the Lower Klamath River region (Wells, 1881). Because of the vast forest resources available in the Klamath River area, the area thrived in the lumber industry as well as fishing. Following the closure of a prominent lumber company in 1995, the Happy Camp community decided to change its focus and concentrate on recreation and tourism. The project area continues to thrive as an outdoor recreation destination.

Literature Search

Archival research indicates that less than 20 percent of the area of potential effects (APE) has been subject to previous cultural resources investigations that took place between 1980 and 1997 (CH2M HILL, 2014). Table 4-5 lists all previous investigations conducted within the study area, which is composed of the APE and a 0.5-mile radius.

Table 4-5. Cultural Resources Reports

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Within 0.5 Mile of the Area of Potential Effects		
Authors and Date	**Report Name**	**CHRIS Catalogue NADB Numbers**
Abusaidi, 1980	Archaeological Survey Report: Gasquet Timber Sale	11510
Graham, Logan, and Gray, 1993	Archaeological and Historical Resources Survey and Impact Assessment: SFI "Boren" THP	4307
Hamusek, 2006	Archaeological Survey Report for the Siskiyou 96 Storm Damage Restoration Project, Siskiyou County, California	8864
Hill, 1992	Archaeological Reconnaissance Report for the Offield Carter Underburn (ARR 05-05-13-72), Siskiyou County, California	11514
Hill, 2001	Archaeological Reconnaissance Report 05-05-1547 for the 2001 Happy Camp Fire Suppression – BAER Undertaking, Klamath National Forest	5323
Haney, 2002	Historical Resource Compliance Report 02-SIS-96, Siskiyou County, California	8627
Hill, 2003	Oak Flat Thin Project Happy Camp Ranger District	5748
Jensen, 1996	Archaeological Inventory Survey, 78-Acre Development Site, South of Happy Camp	1582
Salzman and Shoup, 1984	Archaeological Inventory of the Buzzard Hill Project, Siskiyou County, California	11537
Soule, 1978	Cultural Resource Field Report for Application 25769	525
Unknown	Unknown	SI-L-286
Within the Area of Potential Effects		
Authors and Date	**Report Name**	**CHRIS Catalogue NADB Numbers**
Abusaidi, 1980	Archaeological Survey Report for the U-Fish Timber Sale, Siskiyou County, California	8623
Hill, 1997	Archaeological Reconnaissance Report 05-05-1391 River Access Restoration, Klamath National Forest	2258
Nilsson, 1981	Surprise Timber Sale	11508

Source: NEIC of CHRIS

Notes:

CHRIS = California Historical Resources Information System

NADB = National Archaeological Database

NEIC = Northeast Information System

A total of 41 previously recorded resources were found within a 0.5-mile radius (CH2M HILL, 2014). Table 4-6 summarizes the resources located within the study area; the National Register of Historic Places (NRHP) status for each resource is also listed.

Table 4-6. Previously Recorded Cultural Sites within 0.5 Mile of the Area of Potential Effects
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Site Number	Site Type	Site Description	Evaluation/Year
CA-SIS-323	Multicomponent	Ethnographic *Pikiawish/Inam* Ceremonial	Not evaluated
CA-SIS-351	Multicomponent	Ethnographic *Akramurum* Settlement	Not evaluated
CA-SIS-352/H	Multicomponent	Ethnographic *Yuxtoy* Settlement	Not evaluated
CA-SIS-353	Multicomponent	Ethnographic *Xansifi Kiri* Settlement	Not evaluated
CA-SIS-354/H	Multicomponent	World Renewal Ceremony/Village/Ned Rasper house	Not evaluated
CA-SIS-355	Multicomponent	Ethnographic *Tatsipiruviram* Village/Ned Rasper property	Not evaluated
CA-SIS-358	Multicomponent	Ethnographic *Pipta'as* Village	Not evaluated
CA-SIS-403	Multicomponent	*Pikiawish* World Renewal Ceremony	Not evaluated
CA-SIS-537/H	Historic	Bunker Hill Mine	Not eligible/2001
CA-SIS-542/H	Multicomponent	Ferry Point, Karuk ceremonial and prehistoric habitation/cemetery	Eligible/1978
CA-SIS-545/H	Historic	Jacob's Ladder Trail	Not evaluated
CA-SIS-547/H	Historic	Kelsey Trail	Not evaluated
CA-SIS-553/H	Historic	Siskiyou Mine	Eligible/unknown
CA-SIS-1473/H	Historic	Camp at Jacob's Ladder Trail	Not evaluated
CA-SIS-1629/H	Multicomponent	Bunkhouse and lithic scatter	Not evaluated
CA-SIS-2249/H	Historic	Refuse deposit	Not evaluated
CA-SIS-2251	Multicomponent	Ned Jasper home and cemetery	Not evaluated
CA-SIS-2370/H	Historic	Cabin flat	Not evaluated
CA-SIS-2371/H	Historic	Ditch	Not evaluated
CA-SIS-2996/H	Historic	Swillup Creek guard station	Not evaluated
CA-SIS-3560/H	Historic	Cabins	Not evaluated
CA-SIS-3567/H	Multicomponent	Homestead/food processing (groundstone)	Not evaluated
CA-SIS-3568/H	Multicomponent	Homesteads and Karuk Village *Taxaxxak*	Not evaluated
CA-SIS-3569/H	Multicomponent	Homestead/food processing (groundstone)	Not evaluated
CA-SIS-3570	Prehistoric	Habitation	Not evaluated
CA-SIS-3571/H	Historic	Tinkham cabin remains	Not evaluated
CA-SIS-3578/H	Historic	Modern tree house	Not evaluated
CA-SIS-3581/H	Historic	Foundations and ditch	Not evaluated
CA-SIS-3582/H	Historic	Independence Creek cabins	Not evaluated
CA-SIS-3585/H	Historic	Mining dam and ditch	Not evaluated
CA-SIS-3587/H	Historic	Mining/hydraulic	Not evaluated
CA-SIS-3588/H	Multicomponent	Mining/hydraulic and village site	Not evaluated
CA-SIS-3589/H	Historic	Mining cabin	Not evaluated
CA-SIS-3591	Prehistoric	Groundstone	Not evaluated

Table 4-6. Previously Recorded Cultural Sites within 0.5 Mile of the Area of Potential Effects
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Site Number	Site Type	Site Description	Evaluation/Year
CA-SIS-3592/H	Multicomponent	Mining and millingstones	Not evaluated
CA-SIS-3593/H	Historic	Cabin foundation and refuse	Not evaluated
CA-SIS-4292H	Historic	Culvert and rock headwall	Not evaluated
CA-SIS-4294/H	Historic	Old road	Not evaluated
CA-SIS-4295/H	Historic	Mining	Not evaluated
CA-SIS-4892/H	Historic	Fence and fruit trees	Not evaluated
CA-SIS-4893/H	Historic	Homestead	Not evaluated

Source: NEIC of CHRIS

Of the ethnographic sites listed in Table 4-6 and mapped within the study area along State Highway 96, site records provide that all have suffered a degree of disturbance as many have been damaged by mining, housing, recreational activities, and State Highway 96 construction; boundaries originally recorded may no longer be exact.

Pedestrian Survey

The topography of the APE is hilly, consisting of extreme topographic features. Areas with a greater than 25 percent slope were surveyed opportunistically; and conditions such as unsafe footing, steep drops, ravines, canyons, and dense vegetation were taken into account. In steep areas, particular attention was given to outcrops and overhangs. Subsurface exposures, including rodent burrows and cut banks, were examined. No new resources were located. Overall, the survey area had a visibility of approximately 60 percent. Much of the area had been disturbed by road cut and maintenance of State Highway 96.

One new cultural resource was discovered as a result of this investigation.

Temporary Site Number CH-GC-01

This resource is a circa 1930s hand-laid stone water conveyance feature. The newly recorded feature is located in the Wyman Creek rest area at MP 24.44. Construction of the feature is typical of the Civilian Conservation Corps stone work. The Civilian Conservation Corps was responsible for much of the conservation work performed at national parks and forests as part of President Roosevelt's 1933 New Deal; work in the Klamath National Forest began sometime after 1936. The water conveyance system includes creek channeling and water drainage. This resource does not appear to meet the California Register of Historic Resources (CRHR) or NRHP criteria.

4.5.2 Regulatory Setting

Federal

National Historic Preservation Act, Section 106

The protection of historic properties is governed by several federal laws and regulations, including the National Historic Preservation Act (1966), the Archaeological and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the Archaeological Resources Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). Section 106 of the NHPA states that federal agencies must take into account the effect of the undertaking on any district, site, building, structure, or object that is included in, or eligible for, inclusion in the NRHP.

The enabling legislation for Section 106 is contained in 36 CFR 800 – Protection of Historic Properties. The Section 106 process entails the following three basic steps:

1. Identify historic properties potentially affected by the undertaking.
2. Assess adverse effects on historic properties.
3. Seek ways to avoid, minimize, or mitigate any adverse effects on historic properties.

In accordance with 36 CFR 800, determinations regarding the potential effects of an undertaking on historic properties are presented to the State Historic Preservation Office, federally recognized Native American Tribes, and other interested parties.

Under Section 106 of the NHPA, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative. Following are examples of adverse effects:

- Physical destruction or damage
- Alteration inconsistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties
- Relocation of the property
- Change in the character of the property's use or setting
- Introduction of incompatible visual, atmospheric, or audible elements
- Neglect and deterioration
- Transfer, lease, or sale out of federal control without adequate preservation restrictions

National Register of Historic Places

The preservation of historic properties became national policy first with the passage of the Antiquities Act of 1906. The Historic Sites Act of 1935 continued the goal of preserving historic properties. And finally, the NHPA was passed in 1966. The NRHP was established as part of the NHPA.

Cultural resources include prehistoric and historic archaeological sites, districts, and objects; standing historic structures, buildings, districts, and objects; locations of important historic events; and sites of traditional or cultural importance to various groups. 36 CFR 800 defines a historic property as any prehistoric or historic district, site, building, structure, or object listed in, or eligible for listing in, the NRHP. The criteria used to evaluate properties for the NRHP are provided in 36 CFR 60 and listed in the following bullets. A resource must meet one or more of these following criteria to be considered for eligibility:

- Be associated with events that have made a significant contribution to the broad patterns of history (Criterion A)
- Be associated with the lives of persons significant to our past (Criterion B)
- Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components might lack individual distinction (Criterion C)
- Have yielded, or have the potential to yield, information important to prehistory or history (Criterion D)

Generally, properties must be 50 years old to be eligible for the NRHP, but those that have achieved significance within the past 50 years may be eligible if they are of exceptional importance.

In addition to meeting one or more of these criteria, a resource must retain integrity to be considered a historic property. Integrity is the authenticity of the physical identity, as evidenced by the survival of characteristics that existed during the resource's period of significance. Historic properties must retain enough of their historic character or appearance to be recognizable and to convey the reasons for their significance. The seven aspects of integrity, presented in 36 CFR 60, are location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance and is not eligible for the NRHP still might have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historic information or specific data.

State

CEQA Guidelines

According to the CEQA Guidelines, Appendix G (2002), impacts on cultural resources would be considered significant if the project would result in the following:

- Cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- Disturb any human remains, including those interred outside of formal cemeteries

A historic resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historic resources as defined in subdivision (k) of Section 4020.1, and included as such in a local register, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, shall not preclude a lead agency from determining whether the resource may be a historic resource.

Pursuant to Section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources of the State California Environmental Quality Act), a resource shall be considered to be historically significant if it meets the criteria for listing on the CRHR (Public Resources Code (PRC) Section 5024.1, 14 *California Code of Regulations* 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States (Criterion 1)
- It is associated with the lives of persons important to local, California, or national history (Criterion 2)
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criterion 3)
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4)

In addition to the above criteria, a resource must retain integrity to be considered historically significant. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource's period of significance. Historic resources must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for

their significance. Rehabilitation or restoration does not necessarily discount a resource from eligibility. Integrity must also be evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historical information or specific data.

An adverse effect on a cultural resource is defined as follows:

- Substantial adverse change in the significance of a historic resource by physical demolition, destruction, relocation, or alteration of the resource of its immediate surroundings
- Demolishes or materially alters those physical characteristics of a historic resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register

Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest location on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

California Register of Historical Resources

As provided in PRC Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the PRC, automatically includes all California properties already listed in the NRHP. It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of the State Historical Landmarks and in the State Inventory of Historical Resources), as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include various other types of historic resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory of Historical Resources (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance)

The CRHR follows the lead of the NRHP in using the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute, but was selected as a reasonable span of time after which a professional evaluation of historical value and importance can be made.

California Public Resources Code

The PRC protects paleontological resources through Section 5097.5, which prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission.

Local

As required by CEQA, Siskiyou County addresses the conservation and use of natural, cultural, historical, and archaeological resources in the community.

4.5.3 Impacts and Mitigation Measures

CEQA Guidelines define a significant historic resource as one listed on, or eligible for listing on, the CRHR (PRC Section 5024). Resources that are found to be eligible for the CRHR "are to be protected from substantial adverse change." Such change is defined in Section 5020.1 as demolition, destruction, relocation, or alteration activities that would impair historical significance.

There are 41 known, but not evaluated (for eligibility), prehistoric or historic resources present within 0.5 mile of the project boundaries; no resources have been previously recorded within the APE, and none were found during the project surveys (CH2M HILL, 2014).

Applicant Proposed Measures

APM CUL-1: Prior to construction, workers would be provided with environmental awareness training to recognize potential archaeological or paleontological resources and identify and address any unearthed human remains during construction. If archaeological (or paleontological) materials are uncovered, construction activities and excavation should be conducted to avoid the resources. All construction work within 100 feet of the resource would be halted until a qualified archaeologist (or paleontologist) can assess the find. The archaeologist (or paleontologist) would assess the find and make any necessary recommendations, including any procedures to further investigate or mitigate impacts on the find as required by law, including CEQA Guidelines, Section 15126.4(b)(3)(C).

APM CUL-2: If during excavation or earth-moving activities the construction contractor identifies potential historic or archaeological resources, the county or local jurisdiction would be notified, and a professional archaeologist meeting the minimum qualifications in archaeology as set forth in the Secretary of the Interior's Standards and Guidelines would be contracted and dispatched to assess the nature and significance of the find in the following manner:

- All excavation and grading within 10 feet of the discovery area would cease immediately. The responding archaeologist may, after analyzing the discovery, authorize an alternate buffer around the materials to ensure adequate evaluation and protection of potential historic and archaeological resource(s) during continued construction operations.
- Additional evaluation of the historic and archaeological resource(s) would be conducted and significance of the materials determined. If the discovery is considered significant, the archaeologist would develop and implement a late-discovery mitigation strategy to minimize and avoid the impact, where appropriate.

APM CUL-3: If paleontological resources are discovered during earth-moving activities, the construction crew would immediately cease work near the find. In accordance with Society of Vertebrate Paleontology Guidelines, a qualified paleontologist would assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and mitigation.

APM CUL-4: If human remains are encountered, Health and Safety Code Section 7050.5 states that no further disturbance would occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The county coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the county coroner would notify the Native American Heritage Commission, which would determine and notify a most likely descendant (MLD). With the permission of the landowner and his/her authorized representative, the MLD may inspect the site of the discovery. The MLD would complete the inspection within 48 hours of the

notification by the Native American Heritage Commission. The MLD may make recommendations regarding the disposition of the remains.

APM CUL-5: Siskiyou Telephone and/or USFS would work with the Karuk Tribe to provide a tribal monitor to observe conditions during construction in specified areas of interest.

Project Impacts and Impact Significance

5a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Construction Impacts. There is one cultural resource identified within the APE; however, it does not meet any criteria for listing on the CRHR or NRHP and, therefore, does not qualify as a historic resource or historic property, respectively. No known significant or potentially significant historic resources are located within the project area, and uncovering significant or potentially historic resources during construction is unlikely. Additionally, as a precautionary measure, APM CUL-4 would be implemented during construction in specified areas to assist in identifying previously unknown resources that may be discovered during construction. Therefore, no adverse impacts on significant or potentially significant historic resources are anticipated.

Operational Impacts. No adverse impact on significant or potentially significant historic resources would occur because no ground disturbance would occur during operation of the proposed project.

Mitigation Measures. No mitigation is required.

5b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Construction Impacts. Because no known archaeological resources have been identified, the potential for uncovering archaeological resources during construction is unlikely. Therefore, no adverse impacts on archaeological resources are anticipated. Additionally, as a precautionary measure, APM CUL-4 would be implemented during construction in specified areas to assist in identifying previously unknown resources that may be discovered during construction. In the event a previously unknown resource is identified, by implementation of APM CUL-2, potential impacts would be reduced to a less than significant level.

Operational Impacts. No adverse impact on archaeological resources would occur because no ground disturbance would occur during operation of the proposed project.

Mitigation Measures. No mitigation is required.

5c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction Impacts. Because paleontological resources are generally buried, and are therefore not apparent until revealed by excavation, there is a potential for buried resources to be uncovered during construction activities. Prior to construction, workers would be provided with environmental awareness training to recognize potential paleontological resources, and identify and address any unearthed human remains during construction (APM CUL-3). Therefore, potential adverse impacts on paleontological resources would be less than significant.

Operational Impacts. No adverse impact on paleontological or geologic resources would occur because no ground disturbance would occur during operation of the proposed project.

Mitigation Measures. No mitigation is required.

5d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Construction Impacts. The proposed project would cause no impact on known human remains. However, there is potential for buried resources to be uncovered during construction activities. If human remains were unearthed, all construction in the vicinity would cease, and the county coroner would be notified immediately (in accordance with Health and Safety Code Section 7050.5). If the remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of identification (APM CUL-4). Additionally, as a precautionary measure, APM CUL-4 would be implemented during construction in specified areas to assist in identifying previously unknown resources that be may discovered during construction. In the event a previously unknown resource is identified, by implementation of APM CUL-4, potential impacts would be reduced to a less than significant level. Therefore, potential adverse impacts on human remains would be less than significant.

Operational Impacts. No adverse impact on human remains would occur because no ground disturbance would occur during operation of the proposed project.

Mitigation Measures. No mitigation is required.

4.5.4 Works Cited

Bright, William. 1957. *The Karok Language.* University of California Publications, Berkeley.

California Academy of Sciences. 2001. Science Under Sail: Russia's Great Voyages to America 1728-1867. http://www.calacademy.org/exhibits/science_under_sail/sailing.html. Accessed July 15, 2014.

CH2M HILL. 2014. *Cultural Resources Inventory Report for Siskiyou Telephone Clear Creek to Ukonom Mountain (MP 32.21 to 24.00) Telecommunications Project, Siskiyou County, California.* Prepared by Cardenas, Gloriella/CH2M HILL. Manuscript on file, CH2M HILL, Redding, California.

Chartkoff, Joseph L. and Kerry Kona Chartkoff. 1984. *The Archaeology of California.* Stanford University Press, Stanford.

Congressional Research Service and The Library of Congress. 2005. *Klamath River Basin Issues and Activities: An Overview*.

Curtis, Edward S. 1924a. "The Shasta." In *The Hupa. The Yurok. The Karok. The Wiyot. Tolowa and Tututni. The Shasta. The Achomawi. The Klamath.* pp. 103-126. *The North American Indian*. Written, illustrated, and published by Edward S. Curtis; edited by Frederick Webb Hodge; forward by Theodore Roosevelt.

Curtis, Edward S. 1924b. "The Karok." In *The Hupa. The Yurok. The Karok. The Wiyot. Tolowa and Tututni. The Shasta. The Achomawi. The Klamath.* pp. 55-64. *The North American Indian*. Written, illustrated, and published by Edward S. Curtis; edited by Frederick Webb Hodge; forward by Theodore Roosevelt.

Fiorini-Jenner, G. and M.J. Hall. 2002. *Western Siskiyou County: Gold and Dreams*. Arcadia Publishing, Charleston, South Carolina.

Fredrickson, D.A. 1984. "The North Coastal Region." In *California Archaeology.* pp. 471-528. Edited by M.J. Moratto. Academic Press, Orlando.

Golla, Victor. 2007. "Linguistic Prehistory." In *California Prehistory, Colonization, Culture, and Complexity.*, pp. 71-82. Edited by Terry L. Jones and Kathryn A. Klar. Alta Mira Press.

Gudde, Erwin G. 1960. *California Place Names, The Origin and Etymology of Current Geographical Names.* University of California Press, Berkeley.

Gutierrez, Ramon A. and Richard J. Orsi. 1998. *Contested Eden: California Before the Gold Rush*. University of California Press, Berkeley.

Hendryx, M., O. Silva, and R. Silva. 2003. *Historic Look at Scott Valley*. Siskiyou County Historical Society, Yreka.

Hildebrandt, W.R. 2007. "Northwest California: Ancient Lifeways Among Forested Mountains, Flowing Rivers, and Rocky Ocean Shores." In *California Prehistory, Colonization, Culture, and Complexity.* pp. 83-98. Edited by Terry L. Jones and Kathryn A. Klar. Alta Mira Press.

Hoover, M.B., H.E. Rensch, and E.G. Rensch. 1990. *Historic Spots in California* (Fourth Edition). Revised by William N. Abeloe. Stanford University Press.

Kroeber, A.L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78, Smithsonian Institution, Washington, D.C.

Lech, Steve. 2004. *Along the Old Roads: A History of the Portion of Southern California that Became Riverside County, 1772-1893.* Self published.

Moratto, M.J. 1984. *California Archaeology.* Academic Press, New York.

Native American Heritage Commission. 1998. California Indian History. http://nahc.ca.gov/califindian.html. Accessed July 15, 2014.

National Marine Fisheries Service. 2013. Online species information. http://www.fisheries.noaa.gov/. Accessed March 24, 2013.

Palmer, Gary B. 1980. *Karok World Renewal and Village Sites: A Cultural and Historical District.* University of Nevada, Las Vegas.

Palmquist, Peter. 1977. "Imagemakers of the Modoc War: Louis Heller and Eadweard Muybridge." *Journal of California Anthropology.* 4(2). http://escholarship.org/uc/item/6ff6485c. Accessed July 28, 2010.

Rock, J.T. 1975. *Map of Ethnographic Shasta Villages*. Manuscript. on file, Northeast Information Center, California State University, Chico.

Silver, Shirley. 1978. "Shastan Peoples." In *Handbook of North American Indians, Volume 8, California.* pp. 211-224. Edited by Robert F. Heizer. Smithsonian Institution, Washington, D.C.

SiskiyouHistory.org. n.d. Siskiyou History: 1850-1874. http://www.siskiyouhistory.org/1850.html. Accessed April 7, 2013.

U.S. Forest Service (USFS). 2007. Recreational Activities – Salmon River. http://www.fs.fed.us/r5/klamath/recreation/rivercenter/salmonriver/index.shtml.

Wells, Harry L. 1881. *History of Siskiyou County, California*. D.J. Stewart and Company, Oakland, California.

Western Regional Climate Center. 2004. Recent Climate in the West. http://www.wrcc.dri.edu/. Accessed August 27, 2009.

4.6 Geology and Soils

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
6. **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:	☐	☐	X	☐
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	☐	☐	☐	X
ii) Strong seismic ground shaking?	☐	☐	☐	X
iii) Seismic-related ground failure, including liquefaction?	☐	☐	X	☐
iv) Landslides?	☐	☐	X	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	X	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	X	☐
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	X

4.6.1 Environmental Setting

Geology

The proposed project is located in the Klamath Mountains Geological Province. Siskiyou County is the junction of several western mountain ranges; and elevation, hydrology, and soil conditions vary considerably across the county. Surrounding the project site, the Klamath Mountains are characterized by complexly folded and faulted Paleozoic metamorphic, sedimentary, volcanic, and ultramafic rocks and by Cretaceous marine sandstone and conglomerate (PacifiCorps, 2006). The land surface structure (geomorphology) of the project area is characterized by mountainous terrain with steep slopes.

Geologic units in the project area consist primarily of the following two types:

1. Jurassic marine rocks, unit 1 (Western Sierra Nevada and Western Klamath Mountains), which consist of slate, graywacke, siltstone, pyroclastic, conglomerate, chert, and basalt
2. Ultramafic rocks, chiefly Mesozoic, unit 2 (Western Sierra Nevada and Klamath Mountains), which consist of peridotite, serpentinite, and pyroxenite.

Both geologic units extend along the entire project area (USGS, 2015).

Seismic Hazards

Areas with identified seismic hazards are included in the Siskiyou County General Plan, Seismic and Safety Element (1975). The proposed project area is shown on the seismic risk map included in the Siskiyou County General Plan, in the low-severity zone for maximum expectable earthquake intensity in California. Damage that could occur in a low-severity zone could have low to moderate probable damage in the event of an earthquake (California Department of Conservation, 2015b).

According to the Alquist-Priolo Earthquake Fault Zoning Act, active faults are those fault traces that have shown movement in the past 11,000 years. The California Geologic Survey Alquist-Priolo Earthquake Fault Zones mapping system does not show the presence of earthquake faults in the western portion of Siskiyou County, in the project area. The proposed project is not located in a known earthquake fault zone.

Soils

The entire project route along State Highway 96 is paved with asphalt and has dirt shoulders. Soils on the highway are compacted as a result of vehicle traffic. Private roadways and driveways adjacent to the project site consist mostly of compacted dirt or gravel. Soils in the project vicinity are Haploxeralfs and Dystroxerepts. The predominant Haploxeralfs soil series are ultic, including Ishi Pishi and Dunsmuir, with small percentages of Holland, Indleton, and Hallowtree, which are typic Haploxeralfs. The primary Dystroxerepts soil series include Kindig and Neuns, which are typic, and Deadwood, which is lithic (University of California-Davis, 2015). These soil series are almost entirely loamy-skeletal, with relatively small exceptions where fine-loamy and clayey-skeletal are found.

The distribution of these particular soil types is largely due to the temperate nature of the climate near the project site, which generally has hot, dry summers and cool, wet winters. This climate provides thick vegetation, coniferous forest in this case, and determines what organic materials will be available, how quickly decomposition will occur, and which chemical and biological reactions will take place throughout soil formation. The steep, mountainous terrain formed by igneous and ultramafic rocks also contributes to the soil type.

These soil types are all considered well-drained but prone to runoff, especially in the steep areas on either side of the project site. Additionally, the soils provide limited suitability for common engineering projects, including excavation and road fill (University of California-Davis, 2015).

4.6.2 Regulatory Setting

Federal

No federal policies are directly applicable to the project site.

State

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act became law in 1972. This law prohibits structures for human occupancy from being located across the trace of an active fault and requires the state geologist to delineate earthquake fault zones along faults that are “sufficiently active” and “well defined.” Development permits cannot be issued for sites located in an

earthquake fault zone until geologic investigations demonstrate the site is not at risk for surface displacement from future faulting.

Seismic Hazard Mapping Act. Seismic hazards occur as a result of effects of strong ground shaking, liquefaction, landslides, ground failure, or other earthquake-related hazards. Under the Seismic Hazard Mapping Act, these hazards are to be identified and mapped to assist local governments in land use planning. Seismic hazard zones in the western portion of Siskiyou County have not yet been mapped by the California Geologic Survey, but general ground motions in the project area are expected to be small (California Department of Conservation, 2015a).

Local

The Siskiyou County Planning Department is responsible for land use and planning in Siskiyou County and on Siskiyou County ROW easements in the Klamath National Forest. The Circulation Element of the Siskiyou County General Plan (1988) includes policies and standards to be applied to ROW acquisition and road development. Siskiyou County has review authority over development and improvement of private roads in the county, including private roads located in the Klamath National Forest (Siskiyou County, 1997).

4.6.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM GEO-1: Project construction activities would be performed in accordance with the soil erosion and water quality protection measures to be specified in the SWPPP (see Section 3.6.6) for the proposed project.

APM GEO-2: Project elements, such as excavating rock or soil for utility box installation, building minor retaining walls (less than 5 feet in height) to avoid sedimentation into roadways, and trenching, would be designed and implemented in accordance with industry standards, including established engineering and construction practices and methods.

Project Impacts and Impact Significance

6ai) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated in 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?

Construction and Operational Impacts. The California Geologic Survey Alquist-Priolo Earthquake Fault Zones mapping system does not show known earthquake faults in the western portion of Siskiyou County. The project area is not in a known area of earthquake activity (California Department of Conservation, 2015a). In addition, the project does not include the construction of occupied structures that would expose people to potential substantial adverse effects, including the risk of loss, injury, or deaths involving the rupture of a known earthquake fault; therefore, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, and there would be no impact.

Mitigation Measures. No mitigation is required.

6aii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Construction or Operational Impacts. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking because the project is not in a known area of earthquake activity. There would be no occupied structures that would expose people or structures to potential substantial adverse effects, including the

risk of loss, injury, or death involving strong seismic ground shaking. The project area is not in a known area of earthquake activity, and the most recent Alquist-Priolo Earthquake Fault Zoning Map does not indicate a known fault in the project vicinity that would cause substantial seismic ground shaking. Therefore, operation of the proposed project would result in no impact.

Mitigation Measures. No mitigation is required.

6aiii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Construction Impacts. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure. The most recent Alquist-Priolo Earthquake Fault Zoning Map does not indicate a known fault in the project vicinity that would cause substantial seismic-related ground failure. In addition, the depth to groundwater is anticipated to be greater than 6.5 feet below ground surface, so the potential for liquefaction is minimal. Therefore, construction of the proposed project would result in a less than significant impact.

Operational Impacts. No occupied structures would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure. Therefore, operation of the proposed project would result in no impact.

Mitigation Measures. No mitigation is required.

6aiv) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Construction Impacts. Construction in State Highway 96 would require trenching to a width of 1.5 feet and a depth of 4 feet. The trench or plow depths and widths would be minimal; therefore, the potential for the trench to destabilize or collapse inward is low. Workers would not enter the trench during construction. In the event that Siskiyou Telephone would dig into an adjacent bank to install a utility box, the bank would be less than 5 feet in height, and a rock retaining wall would be constructed to prevent materials from sliding into the utility box or roadway (APM GEO-2). Therefore, construction of the proposed project would result in a less than significant impact.

Operational Impacts. No occupied structures would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, operation of the proposed project would result in no impact.

Mitigation Measures. No mitigation is required.

6b) Would the project result in substantial soil erosion or the loss of topsoil?

Construction Impacts. Construction activities could result in water- or wind-driven soil erosion. Potential impacts would be temporary because the project site would be returned to original condition after construction activities, and restoration activities would include the use of soil stabilizers, grading, and repaving. Construction would occur outside of the rainy season; therefore, water erosion would be minor. Wind-driven erosion (including dust generated from construction activities) would be controlled by use of soil stabilizers and a water truck (APM AQ-1) as necessary. Although construction of the proposed project would cause slight to moderate soil erosion as a result of vehicle travel on unpaved roads or sheet flow from potential dry-season storm events, these potential impacts would be minimized and avoided through the design and implementation of an SWPPP (see Section 4.9.3, APM HYDRO-2). Construction activities would be performed in accordance with the soil erosion and water quality protection measures to be specified in the SWPPP (APM GEO-1). Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. The project site would be restored to preproject condition, and restoration activities would include grading and repaving, after construction activities. Maintenance of the fiber optic broadband facility cable would consist of periodic access to utility boxes. No maintenance of the underground fiber optic broadband facility cable is anticipated during the lifetime of operation; therefore, no ground-disturbing activities would occur during operation. Minimal disturbance to soils would occur due to maintenance vehicles driving over dirt roads during project operation; therefore, operation of the proposed project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

6c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Construction Impacts. The project would be located on or adjacent to disturbed roadways. Soils on the roadways are compacted as a result of prior construction of the roadways and vehicle traffic. Construction on State Highway 96 would require trenching to a width of 1.5 feet and a depth of 4 feet. The trench depths and widths would be minimal; therefore, the potential for the soil to destabilize or cause risk of collapse is low. In the event that Siskiyou Telephone would dig into an adjacent bank to install a utility box, the bank would be less than 5 feet in height, and a rock retaining wall would be constructed to prevent sliding of materials into the utility box or roadway (APM GEO-2). Therefore, the project would not cause a soil or geologic unit to become unstable as a result of the project, and construction of the proposed project would result in a less than significant impact.

Operational Impacts. Operation of the project would not cause a geologic unit or soil to become unstable and potentially result in on- or offsite landslides, lateral spreading, subsidence, and liquefaction or collapse, because project components (conduit and cable) would be underground and backfill compacted to engineering standards, and no further disturbance to adjacent soils would occur with operation of utility boxes. Therefore, operation of the proposed project would result in no impact.

Mitigation Measures. No mitigation is required.

6d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Construction and Operational Impacts. Soils located in the project vicinity are identified by the U.S. Department of Agriculture as being limiting for construction of shallow (6 feet or less) excavations, because they are limited by the potential for linear extensibility (shrink-swell) to this depth (U.S. Department of Agriculture, 2015). The project would occur within the highway, and Class II base rock would be used for backfill to meet Caltrans compaction specifications. Therefore, although soils surrounding the project site may be considered to be expansive, trenching and boring activities would not create a substantial risk to life or property as a result of potentially expansive soil. Construction and operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

6e) Would the project 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?

Construction and Operational Impacts. The project has no need for wastewater disposal; chemical toilets would be available for use by construction personnel, and waste would be hauled away periodically for disposal. Because no wastewater disposal is associated with the project, septic tanks and wastewater disposal systems are not components of the proposed project. Therefore, construction and operation of the proposed project would result in no impact.

Mitigation Measures. No mitigation is required.

4.6.4 Works Cited

California Department of Conservation. 2015a. *California Geological Survey – Alquist-Priolo Earthquake Fault Zones*. http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed November 19, 2015.

California Department of Conservation. 2015b. *California Geologic Survey – Weed Probabilistic Seismic Hazards Map*. http://www.conservation.ca.gov/CGS/rghm/psha/Map_index/Pages/Weed.aspx. Accessed November 19, 2015.

PacifiCorps. August 2006. *Yreka-Weed Transmission Line Upgrade Project, Draft Initial Study/Mitigated Negative Declaration*. Geology, Soils, and Seismicity. http://www.cpuc.ca.gov/Environment/info/esa/yreka-weed/dmnd/2.6_geo.pdf. Accessed November 19, 2015.

Siskiyou County. March 16, 1988. Siskiyou County General Plan. Circulation Element.

Siskiyou County. October 9, 1997. Siskiyou County General Plan. Land Use Element.

Siskiyou County. June 1975. Siskiyou County General Plan. Seismic and Safety Element.

University of California-Davis. 2015. *SoilWeb Earth*. http://casoilresource.lawr.ucdavis.edu/soilweb-apps/. Accessed December 10, 2015.

U.S. Department of Agriculture. 2015. *Web soil survey for the Klamath National Forest Area, Parts of Siskiyou County, California, and Jackson County, Oregon*. http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA. Accessed November 19, 2015.

U.S. Geological Survey (USGS). 2015. *California Geologic Map Data*. http://mrdata.usgs.gov/geology/state/state.php?state=CA. Accessed December 1, 2015.

4.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
7. **Greenhouse Gas Emissions.** Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	X	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gas?	☐	☐	X	☐

4.7.1 Environmental Setting

In the United States, the main source of greenhouse gas (GHG) emissions is electricity generation, followed by transportation. In California, however, transportation sources (passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest category of GHG-emitting sources (CARB, 2015a). In 2013, the annual California statewide GHG emissions were 459.3 million metric tons of carbon dioxide (CO_2)-equivalent (CARB, 2015b). The transportation sector accounts for about 37 percent of the statewide GHG emissions inventory. Both the electric power and industrial sectors account for

about 20 percent, respectively, of the total statewide GHG emissions inventory (CARB, 2015a). The dominant GHG emitted is CO_2, primarily from fossil fuel combustion.

4.7.2 Regulatory Setting

Federal

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the National Clean Car Program and EO 13514 – Federal Leadership in Environmental, Energy and Economic Performance. EO 13514 was signed October 5, 2009; it focused on reducing GHGs internally in federal agency missions, programs, and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts versus EPA (2007). The U.S. Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Clean Air Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012 through 2016).

On August 28, 2012, EPA and NHTSA issued a joint final rulemaking to extend the national program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017 through 2025 standards, this program is projected to save approximately 4 billion barrels of oil and 2 billion metric tons of GHG emissions.

The complementary EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut GHG emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish GHG emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate the combined standards will reduce CO_2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy-duty vehicles.

In March 2013, EPA proposed Tier 3 Motor Vehicle Emission and Fuel Standards to reduce air pollution from passenger cars and trucks to set new vehicle emissions standards and lower the sulfur content of gasoline, considering the vehicle and its fuel as an integrated system.

State

With the passage of the following pieces of legislation and EOs, California launched an innovative and proactive approach to address GHG emissions and potential climate change-related impacts:

- Assembly Bill (AB) 1493, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires CARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year.
- EO S-3-05 (June 1, 2005): The goal of this executive order is to reduce California's GHG emissions to (1) year 2000 levels by 2010, (2) year 1990 levels by the 2020, and (3) 80 percent below year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.
- AB 32, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." In December 2008, CARB approved the initial scoping plan, which included a suite of measures to sharply cut GHG emissions. Key elements of the initial scoping plan included the following:
  - Expand and strengthen energy efficiency programs, including building and appliance standards.
  - Increase electricity generation from renewable resources to at least 33 percent of the statewide electricity mix by 2020.
  - Establish targets for passenger vehicle-related GHG emissions for regions throughout California and pursue policies and incentives to achieve those targets. Included with this strategy is support for the development and implementation of a high-speed rail system to expand mobility choices and reduce GHG emissions.
  - Adopt and implement measures pursuant to existing state laws and policies, including California's clean car standards and the low carbon fuel standard.
  - Develop a cap-and-trade program so that the target is met while providing flexibility to California businesses to reduce emissions at low cost.
- *First Update to the Climate Change Scoping Plan* (Update): In May 2014, CARB approved the Update. The Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial scoping plan. It also evaluates how to align the state's "longer-term" GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use.
- EO S-20-06 (October 18, 2006): This EO establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency and state agencies with regard to climate change.
- EO S-01-07 (January 18, 2007): This EO set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.
- Senate Bill (SB) 97, Chapter 185, 2007, Greenhouse Gas Emissions: SB 97 required the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective March 18, 2010.
- SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a Sustainable Communities Strategy that integrates

transportation, land use, and housing policies to plan for the achievement of the emissions target for their region.

- SB 391, Chapter 585, 2009 California Transportation Plan: This bill requires the state's long-range transportation plan to meet California's climate change goals under AB 32.
- Renewables Portfolio Standard: Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's Renewables Portfolio Standard is one of the most ambitious renewable energy standards in the country. The Renewables Portfolio Standard program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.
- California Executive Order B-30-15, 2015: California EO B-30-15, which was signed by Gov. Brown in April 2015, calls for a California GHG reduction target of 40 percent below 1990 levels by 2030. This is the most aggressive GHG emissions reduction goal in North America.

Local

No local policies are directly applicable to the project site.

4.7.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM GHG-1: To the extent feasible, unnecessary construction vehicle and idling time would be minimized.

Project Impacts and Impact Significance

7a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and Operational Impacts. GHG impacts were evaluated based on whether the project GHG emissions would have a significant impact on the environment, more specifically, if the GHG emissions from the proposed project would hinder or delay California's ability to meet the GHG reduction targets set in AB 32.

GHG emissions increases would occur during project construction from the construction equipment and vehicles. Operation of the proposed project would involve accessing utility boxes for maintenance purposes, and are assumed to be negligible. Direct GHG emissions from construction equipment and vehicles were estimated using CalEEMod (California Air Pollution Control Officers Association, 2013) with project specific phasing, equipment usage, and vehicle miles traveled.

Total GHG emissions from project construction would be approximately 2,093 metric tons of carbon dioxide equivalent (see Appendix B). Additionally, emissions from construction would be temporary, because construction is expected to last up to 6 months per year for 2 years, and implementation of APM GHG-1 would further reduce GHG emissions from vehicles. As previously noted, once constructed, occasional maintenance to the utility boxes would result in negligible emissions from the project site. Therefore, project-generated GHG emissions would have a less than significant impact on the environment.

Mitigation Measures. No mitigation is required.

7b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gas?

Construction and Operational Impacts. Other than the EO S-3-5 and AB 32 GHG reduction goals and the AB 32 Scoping Plan and Update, there are no GHG reduction plans, policies, or regulations that apply to the proposed project. Given that emissions would be temporary and operational emissions would be negligible, the project would not conflict with any applicable plans, policies or regulations; therefore, impacts would be less than significant.

Mitigation Measures. No mitigation is required.

4.7.4 Works Cited

California Air Pollution Control Officers Association. 2013. *California Emission Estimator Model User's Guide, Version 2013.2*. July.

California Air Resources Board (CARB). 2015a. *California Greenhouse Gas Emissions for 2000 to 2013 – Trends of Emissions and Other Indicators*. June.

California Air Resources Board (CARB). 2015b. *California Greenhouse Gas Emission Inventory – 2015 Edition*. http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed December 1, 2015.

U.S. Supreme Court. 2007. Massachusetts et al. v. Environmental Protection Agency et al. Argued November 29, 2006. Decided April 2, 2007.

4.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8. **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?	☐	☐	X	☐
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?	☐	☐	X	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	X	☐
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?	☐	☐	X	☐

4.8.1 Environmental Setting

Hazardous materials are chemical and nonchemical substances that, if released or misused, can pose a threat to the environment and human health. These substances are most often released as a result of motor vehicle or equipment accidents, or because of chemical accidents during industrial use. If not properly contained, these substances have the potential to leach into surface water, groundwater, and soils during spills.

The project site is not located in a hazardous materials site according to Government Code Section 65962.5 (Department of Toxic Substances Control, 2015).

Hazardous materials in the Klamath National Forest include asbestos, radon, and a variety of materials associated with abandoned mines and landfills, such as heavy metals and acid drainage. Although the issue of hazardous materials has grown larger in the past few years, levels above maximum exposure limits have not been identified in the Klamath National Forest. No asbestos or radon monitoring was conducted in fiscal year 2013, as no rock aggregate from quarries in ultramafic rock was used to surface roads, and no new radon threats were identified. No monitoring was done on hazards from abandoned mines; landfills; or seismic, volcanic, or avalanche sources because USFS was not aware of any new hazards that may result in high geologic hazard levels (USFS, 2014).

Fire hazards can result from specific environmental conditions, such as dry climates or high winds. Fire hazards can also result from human activities, including use of petroleum fuels and products, and the combustion of natural gas and wood for heating. According to USFS, the project site is located in a high fire hazard zone (2007).

As stated in Section 2.1, forest fires have been prevalent in the project area. In the summers of 2008 and 2014, fires burned through the Klamath National Forest, destroying timber lands and structures. In 2014, specifically, many of the fires burned near the project site, joining together in a wildfire known as the Happy Camp Complex (USFS, 2015a). Some fuels management within the forest is currently taking place through prescribed burning and thinning; however, weather, the time required to complete prescribed fire plans, government regulations, litigation and appeals, and occasionally the impacts of prescribed fire on air quality have limited the ability of land managers to ignite prescribed fires (USFS, 2015b)

The nearest non-commercial airstrip is the Happy Camp Airport, which is located approximately 1.3 miles from the northernmost portion of the proposed project site. The airstrip is not used for commercial flights and is only suitable for small planes and helicopters (typically used by local medical centers and USFS).

4.8.2 Regulatory Setting

Federal

The principal agency regulating the generation, transport, and disposal of hazardous substances is EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The EPA regulates hazardous substance sites under the Comprehensive Environmental Response, Compensation, and Liability Act.

Clean Water Act, 33 U.S. Code, Title 33, Section 1251 et seq. The CWA is the principal federal statute protecting navigable waters and adjoining shorelines from pollution. The law was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. Since its enactment, the CWA has formed the foundation for regulations detailing specific requirements for pollution prevention and response measures. The EPA implements provisions of the CWA through a variety of regulations, including the National Contingency Plan and the Oil Pollution and Prevention Regulations.

Resource Conservation and Recovery Act, U.S. Code, Title 42, Section 6901 et seq. RCRA regulates hazardous waste from the time that waste is generated through its management, storage, transport, and treatment, until its final disposal. The EPA has authorized the Department of Toxic Substances Control to administer the RCRA program in California.

National Priorities List. The EPA maintains sites that are included on the National Priorities List. The National Priorities List contains national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.

U.S. Department of Transportation. The U.S. Department of Transportation has the regulatory responsibility for the safe transportation of hazardous materials.

Occupational Safety and Health Act. Federal occupational safety and health regulations contain provisions with respect to the management of hazardous materials. The applicable federal law is the Occupational Safety and Health Act (OSHA) of 1970 as amended (29 U.S. Code, Sections 651-678; 29 CFR 1910). Federal OSHA requirements are designed to promote worker safety, worker training, and worker right-to-know. OSHA establishes regulatory requirements primarily by promulgating standards for occupational safety and health.

Employers are required to train a team of employees to applicable federal OSHA-defined (29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response [HAZWOPER] Standards) levels to respond to accidental releases of hazardous materials and, as appropriate, to retain on-call contractors to respond to accidental releases of hazardous materials.

Emergency Planning and Community Right-to-Know Act, U.S. Code, Title 42, Sections 11001 et seq. Also known as Title III of the Superfund Amendments and Reauthorization Act, the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designed to help communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission. Each State Emergency Response Commission was required to divide the state into emergency planning districts and to name a local emergency planning committee for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

49 *Code of Federal Regulations* 100 through 185, Hazardous Materials Regulations. The hazardous materials regulations are issued by the Pipeline and Hazardous Materials Safety Administration and govern the transportation of hazardous materials by highway, rail, vessel, and air. The Hazardous

Material Regulations address hazardous materials classification, packaging, hazard communication, emergency response information, and training (U.S. Department of Transportation, 2015).

State

California Office of Emergency Services. The California Office of Emergency Services coordinates the emergency response to an accidental release of acutely or extremely hazardous materials.

Department of Toxic Substances Control. Under Government Code Section 65962.5(a), the Department of Toxic Substances Control is required to compile and update, as appropriate, but at least annually, and submit a list of the following to the Secretary for Environmental Protection:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code
2. All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code

California Environmental Protection Agency and the Office of Emergency Services. The California Environmental Protection Agency and the Office of Emergency Services of the State of California establish rules governing the use of hazardous substances. The Department of Toxic Substances Control has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency for the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Law.

The California Highway Patrol and Caltrans are the enforcement agencies for hazardous substances transportation regulations.

California Resource Conservation and Recovery Act, *California Code of Regulations*, Title 22, Division 4.5. California's RCRA hazardous waste program is more stringent than the federal program, and certain wastes that would not qualify as hazardous by federal standards may still qualify as hazardous waste according to California standards (termed non-RCRA hazardous waste). Handling and storage of fuels, flammable materials, and common construction-related hazardous materials are governed by the California Division of Occupational Safety and Health standards for storage and fire protection.

Hazardous Waste Control, Health and Safety Code, Chapter 6.5, Section 25117. A hazardous waste is defined as a discarded material in any form (for example, solid, liquid, gas) that may pose a present or potential hazard to human health and safety or the environment when improperly transported, treated, stored, disposed of, and otherwise managed.

Local

Siskiyou County is responsible for enforcing state regulations, and regulates the use, storage, and disposal of hazardous substances by issuing permits, monitoring regulatory compliance, investigating complaints, and performing other enforcement activities.

4.8.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM HAZ-1: Refueling of equipment would occur at a minimum distance of 20 feet from all active waterways.

APM HAZ-2: An SWPPP would be in place prior to the start of construction activities to implement BMPs for spill and pollution prevention. The following BMPs would minimize the potential for accidental release of hazardous materials:

- Equipment would be maintained in good working order, and equipment containing hazardous materials would be inspected periodically for signs of spills or leakage.
- Spills that occur would be cleaned up immediately, and any contaminated soil would be containerized and properly disposed of.
- Spills that occur would be reported in accordance with applicable federal, state, and local requirements.
- Emergency phone numbers would be available onsite.

APM HAZ-3: Siskiyou Telephone would develop a fire management plan, in accordance with the modified special use permit from USFS that addresses construction activities for this project. The fire management plan would establish standards and practices that would minimize the risk of fire danger and, in the case of fire, provide for immediate suppression and notification. The fire management plan would address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. In addition, a water truck would be located onsite (for fugitive dust emission control) and could be used for fire suppression if needed.

Project Impacts and Impact Significance

8a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction Impacts. Construction of the proposed project does not involve the routine transport, use, or disposal of hazardous materials other than small amounts of equipment-related materials, such as fuel, hydraulic fluids, and paints. Therefore, construction of the proposed project would not create a significant hazard to the public or the environment.

Because of the low volume and low toxicity of the hazardous materials to be used during construction and implementation of APMs, the potential for environmental impacts from construction-related hazardous materials incidents is less than significant. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, because it would not require the routine transport, use, or disposal of hazardous materials. Therefore, operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

8b) Would the project 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?

Construction Impacts. There is potential for incidents involving the release of gasoline, diesel fuel, motor oil, hydraulic fluids and lubricants, or paints. In addition, small amounts of waste motor oils, waste hydraulic fluids, discarded batteries, and waste solvents and adhesives are anticipated to be generated during construction activities. If not controlled, spills and leaks of hazardous materials or hazardous wastes during construction could result in impacts on soil or groundwater.

The most likely incidents involving construction-related hazardous materials are generally associated with minor spills or drips. With implementation of APM HAZ-1, spills would not enter into active

waterways. Additionally, with the implementation of APM HAZ-2, accidents involving the release of small quantities of hazardous materials from construction equipment, such as hydraulic fluid or diesel fuel, would be mitigated through implementation of an emergency response training program and procedures implemented by the project construction contractors and employees. In addition, Siskiyou Telephone would have the contractor prepare and implement the SWPPP discussed in APM HAZ-2. The SWPPP would include protective measures, notification, and cleanup requirements for accidental spills or other releases of hazardous materials.

Because of the low volume and low toxicity of the hazardous materials to be used during construction and implementation of APMs, the potential for environmental impacts from the accidental release of hazardous materials into the environment is less than significant. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not 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, because it would not require the use of hazardous materials that could be leaked into the environment. Therefore, operation of the proposed project would result in no impact under this criterion.

8c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Construction Impacts. No existing or proposed schools are within 0.25 mile of the project site. Therefore, construction of the proposed project would result in no impact under this criterion.

Operational Impacts. No existing or proposed schools are within 0.25 mile of the project site. Therefore, operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

8d) Would the project 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?

Construction and Operational Impacts. Because the project site does not include any areas containing hazardous materials pursuant to Government Code Section 65962.5, no hazard to the public or the environment would be encountered. Therefore, construction and operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

8e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Construction and Operational Impacts. The project site is not located within an airport land use plan. The closest airstrip is approximately 1.3 miles from the northern portion of the proposed project and the disposal site, with the majority of the project alignment beyond 2 miles. There would be no use of cranes or equipment that would disturb the flight path of the airstrip, and construction of the proposed project would not result in a safety hazard for people residing or working in the project area. Construction and operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

8f) 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?

Construction and Operational Impacts. As previously described, there would be no use of cranes or equipment that would disturb the flight path of the airstrip, and because flights to the airstrip are infrequent, construction and operation of the proposed project would not result in a safety hazard for people residing or working in the project area; therefore, there would be no impact.

Mitigation Measures. No mitigation is required.

8g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction Impacts. Construction of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Siskiyou Telephone would consult with affected agencies prior to initiating construction activities that could affect traffic (for example, equipment delivery, truck loading) and, thereby, potentially interfere with an adopted emergency response plan or emergency evacuation plan, Additionally, in the event of an emergency, or if an emergency vehicle needed to pass through the construction area, the construction equipment would be moved immediately. Furthermore, one of the two 16-foot lanes of the highway would be available for emergency vehicle use during construction. Therefore, construction of the proposed project would result in a less than significant impact. Emergency access is addressed further in Section 4.16, Transportation and Traffic.

Operational Impacts. Operation of the proposed project would not require the closure of lanes along the highway and, therefore, would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

8h) Would the project 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?

Construction Impacts. Construction of the proposed project would not 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.

With the implementation of APM HAZ-3, Siskiyou Telephone would develop a fire management plan, in accordance with the modified special use permit from USFS that addresses construction activities for the proposed project. The fire management plan would establish standards and practices that would minimize the risk of fire danger and, in the case of fire, provide for suppression, notification, and evacuation, as necessary. The fire management plan would address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. Vehicle parking, storage areas, stationary engine sites, welding areas, and flammable materials storage would not occur in vegetated areas. In addition, areas used for dispensing or storing gasoline, diesel fuel, other oil products, or other flammable materials would not occur in vegetated areas. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not 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.

As previously discussed, Siskiyou Telephone would develop a fire management plan (APM HAZ-3) to address operation and maintenance, establish standards and practices that would minimize the risk of fire danger and, in the case of fire, provide for immediate suppression, notification, and evacuation, as

necessary. Therefore, operation of the proposed project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

4.8.4 Works Cited

Department of Toxic Substances Control. 2015. Envirostor database tool. http://www.envirostor.dtsc.ca.gov/public/. Accessed December 7, 2015.

U.S. Department of Transportation. 2015. Pipeline and Hazardous Materials Safety Administration. http://www.phmsa.dot.gov/hazmat/regs. Accessed November 20, 2015.

U.S. Forest Service (USFS). 2015a. *2014 Klamath National Forest Fire Season Review*. April 28.

U.S. Forest Service (USFS). 2015b. Fire Management. http://www.fs.usda.gov/detail/klamath/landmanagement/resourcemanagement/?cid=fsm8_049826. Accessed November 20, 2015.

U.S. Forest Service (USFS). 2014. *Fiscal Year 2013 Monitoring and Evaluation Report: Klamath National Forest*. September 22.

U.S. Forest Service (USFS). 2007. Siskiyou County Fire Hazard Severity Zone Map. November 7. http://www.fire.ca.gov/fire_prevention/fhsz_maps_siskiyou. Accessed December 7, 2015.

4.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
9. **Hydrology and Water Quality.** Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	X	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?	☐	☐	X	☐
d) Substantially alter the existing drainage pattern of the site or area, including through 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 offsite?	☐	☐	X	☐
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?	☐	☐	X	☐
f) Otherwise substantially degrade water quality?	☐	☐	X	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Place housing within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-yr. flood hazard area structures which would impede or re-direct flood flows?	☐	☐	X	☐
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?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X

4.9.1 Environmental Setting

Surface Water

The project area is located in the Lower Klamath Basin of the greater Klamath River Basin (for discussion, the greater Klamath River Basin is often divided into the Upper Klamath Basin and the Lower Klamath Basin). The Lower Klamath Basin consists of the west section of the Upper Klamath Subbasin and six hydrologic subbasins: Lower Klamath, Salmon, Scott, Shasta, South Fork Trinity, and Trinity. The Lower Klamath Basin includes the mouth of the Klamath River in the northwest coast region of California and comprises 984,709 acres (Natural Resources Conservation Service, 2015).

The Lower Klamath Basin lies in the Klamath Mountains, characterized by the steep, rugged watersheds of the Salmon and Trinity Rivers, caused by rapid tectonic uplifts (National Research Council, 2008). There are four major tributaries to the Klamath-Trinity River system: the Salmon River, Scott River, Shasta River, and Trinity River. The project alignment is not located within a tsunami inundation area (California Department of Conservation, 2015).

The project alignment also traverses 10 minor creek crossings: Douglas Creek, Browns Creek, Allard Creek, Crawford Creek, Wyman Creek, Coon Creek, Elliot Creek, Aubrey Creek, Three Creeks, and Kennedy Creek.

Water Quality

Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality objectives and are not supporting their designated beneficial uses. These water bodies are considered to be impaired with respect to water quality. The North Coast RWQCB has included the Klamath Basin and, specifically, the Klamath River on the CWA Section 303(d) lists of water bodies with water quality impairments. The project alignment falls within the Lower Klamath River between Scott River and Trinity River. This segment is listed as impaired due to water temperature, organic enrichment/low dissolved oxygen, nutrients, and microcystin (North Coast RWQCB, 2012). Additionally, minor tributaries to Lower Klamath River within this segment that are impaired due sediment and sedimentation include China Creek, Grider Creek, Thompson Creek, and Walker Creek (North Coast RWQCB, 2012).

Groundwater

The project area is located in the Happy Camp Town Groundwater Basin of the North Coast Hydrologic Region (California Department of Water Resources, 2013).

4.9.2 Regulatory Setting

Federal

Clean Water Act. The CWA (U.S. Code, Title 33, Section 1251 et seq.) is the primary federal law governing surface water quality. The goal of the CWA is to restore and maintain the physical, chemical, and biological integrity of the waters of the United States. The CWA guides restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. CWA Section 401, 402, and 404 requirements specifically apply to construction projects that might affect jurisdictional wetlands and waters of the United States. If a project discharges into waters of the United States, Section 401 specifies that an RWQCB certification must also be obtained verifying the project complies with the CWA and state water quality standards. Section 402 established the NPDES, which regulates permits to discharge a pollutant (except dredge or fill material) into waters of the United States. The North Coast RWQCB in California is the Section 401 and 402 permitting authority in the project area.

Section 404 of the CWA established the USACE permit program regulating the discharge of dredged or fill material into jurisdictional wetlands and waters of the United States. The USACE's dredge and fill regulations are in 33 CFR 320 through 330. Implementation of dredge and fill permitting follows the Section 404 (b)(1) CEQA Guidelines, which were jointly developed by EPA and USACE (40 CFR 230). The Section 404(b)(1) CEQA Guidelines allow the discharge of dredged or fill material into an aquatic system only if no practicable alternative with fewer adverse effects is available.

Section 303(c)(2)(B) of the CWA requires the state to develop and adopt numeric water quality standards for priority toxic pollutants identified according to EPA's Water Quality Management and Planning Regulation (40 CFR 130.7(b)), if those pollutants could be reasonably expected to interfere with the designated beneficial uses for a particular water body. EPA enacted the California Toxics Rule (40 CFR 13.138) to establish water quality criteria for water bodies not yet identified by the state and without numeric water quality criteria for priority toxic pollutants.

Section 303(d) of the CWA requires the state to identify and list water bodies not meeting water quality standards; these waters are deemed "impaired." The state then must develop a total maximum daily load, which is a pollution budget and includes a calculation of the maximum amount of a pollutant that can occur in a water body, and allocates the necessary reductions to one or more pollutant sources (EPA, 2015).

Point source discharges of pollutants into waters of the United States are only authorized in accordance with an NPDES permit. In 1987, amendments to the CWA added Section 402(p), which established a framework for regulating storm water discharges. The NPDES program and issuance of permits under that program are administered by the State Water Resources Control Board (SWRCB) and RWQCBs (see Section 4.4.2). In 2003, the SWRCB adopted the General Permit for Storm Water Discharge Associated with Construction Activity from Smaller Linear Underground/Overhead Projects (LUP General Permit). It regulates the discharge of storm water associated with construction activities from small linear underground/ overhead projects that result in land disturbances greater than 1 acre but less than 5 acres.

In California, the SWRCB, acting through its RWQCBs, implements the NPDES permits in a manner consistent with a Memorandum of Agreement with the EPA. For this reason, relevant NPDES permits are discussed under state regulations.

Safe Drinking Water Act. The Safe Drinking Water Act, enacted in 1974, regulates the nation's public drinking water supply. Source water protection, treatment, distribution system integrity, and public information are measures in place to prevent pollution of drinking water. The state is required to perform a source-water assessment for each public water system. At times, limitations on land use are used in designated areas to protect source water.

***Klamath National Forest Land and Resource Management Plan*.** The Wild and Scenic River Management Program of the *Klamath National Forest Land and Resource Management Plan* sets forth policies for the preservation and protection of components included in the National Wild and Scenic Rivers System (USFS, 1995). In 1981, 286 miles of the Klamath River, including the entire Salmon River system, were designated as Wild, Scenic, or Recreational within the National Wild and Scenic Rivers System (USFS, 2015).

To determine impacts or cumulative effects on USFS lands, USFS considers all effects of proposed actions in a watershed, regardless of land ownership.

State

Porter-Cologne Water Quality Control Act. The 1969 Porter-Cologne Water Quality Control Act gives statutory authority to regulate surface water and groundwater quality in the state to the SWRCB and the RWQCBs. The federal CWA authority under Section 402 was extended to the SWRCB and RWQCBs in 1972. The Porter-Cologne Water Quality Control Act protects the beneficial uses of surface water and groundwater in California, with a focus on water quality. This act is regulated by the SWRCB and the nine RWQCBs, which regulate all pollutant or nuisance discharges that may affect surface water or groundwater. The SWRCB and RWQCBs may also exercise jurisdiction for discharges into waters of the state in cases where the waters are excluded from regulations under the federal CWA. There is currently no formal protocol for delineating waters of the state.

Each RWQCB is responsible for developing a water quality control plan for its region. The proposed project is in the jurisdiction of the North Coast RWQCB. The Water Quality Control Plan establishes water quality standards for all of the surface water and groundwater in the region, including designating the beneficial uses of waters, establishing numeric and narrative water quality objectives to ensure that beneficial uses are achieved, and incorporating the state's anti-degradation policy. In addition to administering the NPDES program through issuance of waste discharge requirements, the SWRCB and RWQCBs also regulate discharges of waste to water or land that could affect surface water or groundwater.

Local

The Conservation Element of Siskiyou County's General Plan (Siskiyou County, 1973) considers groundwater resources, water quality, and flood control to remain the county's most important land use determinants. Objectives of the Siskiyou County General Plan include conservation of water resources by preserving the quality of the existing water supply, by adequately planning for future generations, and through erosion control and type conversion of vegetation. In addition, fire hazards would be reduced by developing a program for sustained management of watersheds (Siskiyou County, 1973).

4.9.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM HYDRO-1: Disturbed areas would be restored to preconstruction conditions to avoid altering or increasing the rate or volume of surface runoff.

APM HYDRO-2: To comply with the LUP General Permit, Siskiyou Telephone would submit a Notice of Intent to the SWRCB and a Linear Construction Activity Notification to the RWQCB prior to construction. Siskiyou Telephone would also have the construction contractor prepare an SWPPP outlining BMPs for storm water erosion and sediment control, wind erosion control, source controls, and waste management. Siskiyou Telephone would ensure that SWPPP requirements are implemented and water quality standards are maintained. BMPs would be modified as necessary to ensure adequate erosion controls. The following are examples of BMPs:

- Dry-season (April through October) construction to minimize erosion and storm water sediment transport
- Use of silt fences or fiber rolls to prevent the migration of sediment offsite
- Application of water to disturbed areas during work or windy conditions to prevent dust and erosion
- Use of drip pans for mobile fueling

Project Impacts and Impact Significance

9a) Would the project violate any water quality standards or waste discharge requirements, 9f) or otherwise substantially degrade water quality?[1]

Construction Impacts. Construction activities would include earth movement and use of heavy construction equipment. Without appropriate controls, construction activities could result in an increase in storm water-induced erosion and sedimentation in surface waters located downgradient from the discharge. Furthermore, pollutants that are associated with equipment, such as lubricants and fuel, could migrate into receiving waters if appropriate management measures were not implemented.

Post-construction measures would include restoring the disturbed areas. This restoration would require application of an asphalt trench patch over the trench in State Highway 96 and a chip seal surface over the entire area to prevent erosion. Any bar ditch with obstructions would be cleared.

Although not expected, any groundwater encountered during trenching activities would be removed and land applied to eliminate the potential of sediment entering into surface waters. Implementation of APM HYDRO-1 and APM HYDRO-2 to prevent construction pollutants from contacting storm water and moving offsite into receiving waters would reduce potential impacts on water quality to a less than significant level.

Because no water is expected to be discharged during project construction, no violations of waste discharge requirements are anticipated to occur.

Operational Impacts. After the fiber optic broadband facility cable has been installed and service has been initiated to local residents, it is anticipated that minimal operation or maintenance of the project components would be required. Because no wastewater would be discharged during project operations, no violations of waste discharge requirements are anticipated to occur. Operation of the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

9b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Construction Impacts. No wells would be constructed as part of the project, and no groundwater would be used. Trenching would occur above groundwater depths and would not affect groundwater supplies or recharge so that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. No impacts on groundwater would occur.

Operational Impacts. Construction of the project's utility boxes would create approximately 780 square feet (less than 0.02 acre) of new impervious area. Project impacts on groundwater recharge would be less than significant.

[1]Criteria a and f are discussed together.

Mitigation Measures. No mitigation is required.

9c) Would the project 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 onsite or offsite?

Construction Impacts. Construction activities of the project might temporarily alter the existing drainage pattern of the disturbed area. Because the project would be constructed during the dry period and APM HYDRO-1 and APM HYDRO-2 would be implemented to prevent construction sediments from contacting storm water and moving offsite into receiving waters, any potential impacts would be reduced to a less than significant level. In addition, post construction measures would include restoring surface areas to existing conditions.

Operational Impacts. Post construction measures would include restoring surface areas to existing conditions. Operation of the project would not involve or affect the project site's drainage pattern. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

9d) Would the project 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 offsite?

Construction Impacts. Post construction measures would include restoring surface areas to existing conditions. Construction activities of the project might temporarily alter the existing drainage pattern of the disturbed area. However, considering the linear nature of the project and its associated small construction area footprint, and because the project would be constructed during the dry period, potential impacts on the rate or amount of surface runoff that would result in flooding on- or offsite would be less than significant.

Operational Impacts. Post construction measures would include restoring surface areas to existing conditions. Operation of the project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

9e) Would the project 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?

Construction Impacts. Without appropriate controls, construction activities could result in an increase in storm water-induced erosion and sedimentation in surface waters located downgradient from the discharge. Furthermore, pollutants that are associated with equipment, such as lubricants and fuel, could migrate into receiving waters if appropriate management measures were not implemented.

Because the project would be constructed during the dry period and APM HYDRO-1 would be implemented, any potential impacts associated with addition of substantial sources of runoff water would be reduced to a less than significant level.

Operational Impacts. Construction of the project's utility boxes would create up to approximately 780 square feet (less than 0.02 acre) of new impervious area. Project impacts on runoff water would be less than significant, and amounts would not exceed the capacity of the existing storm water drainage system.

Disturbed areas would be restored to existing conditions and would not alter or increase the rate or volume of runoff water. Because there would a negligible increase of impervious area, the existing storm water drainage system would continue to have adequate capacity to handle surface runoff, and impacts would be less than significant.

Mitigation Measures. No mitigation is required.

9g) Would the project 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?

Construction and Operational Impacts. The project does not include the placement of housing; therefore, there are no impacts under this criterion.

Mitigation Measures. No mitigation is required.

9h) Would the project place structures within a 100-year flood hazard area, which would impede or redirect flood flows?

Construction Impacts. Because the project is located on State Highway 96, which runs along the Klamath River, some areas of the project site may be considered Special Flood Hazard Areas subject to 100-year flooding, as mapped on a Flood Insurance Rate Map (Federal Emergency Management Agency, 2011). However, project activities in the 100-year flood hazard area would only involve directional drilling under culverts and streams and installing utility boxes and small retaining walls (if necessary), activities that would not substantially impede or redirect flood flows. Therefore, construction activities would be less than significant under this criterion.

Operational Impacts. Because the total area of less than 0.02 acre occupied by the aboveground facilities is insufficient to substantially impede or redirect flood flows, project operations would be less than significant under this criterion.

Mitigation Measures. No mitigation is required.

9i) Would the project 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?

Construction and Operational Impacts. No known levees or dams are in the project site or immediate vicinity of the project area. Construction activities would not affect existing dams or levees upstream from the project area, and would, therefore, not 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. Therefore, construction and operation activities would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

9j) Would the project expose people or structures to inundation by seiche, tsunami, or mudflow?

Construction and Operational Impacts. Because the project site is not within a tsunami or seiche inundation area, no impacts would occur due to a tsunami. Additionally, because no enclosed or restricted water bodies are located in the project site, construction or operational activities would not expose people or structures to inundation by a seiche. Because of recent fire activity, slopes adjacent to the highway could be denuded to the extent that a mudflow could occur during a significant rain event; however, construction would be temporarily postponed during significant rain events, and construction workers would not be onsite; therefore, construction and operation activities would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.9.4 Works Cited

California Department of Conservation. 2015. Official Tsunami Inundation Maps. http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps#County. Accessed December 30, 2015.

California Department of Water Resources. 2013. Groundwater Basin Maps and Descriptions. http://www.water.ca.gov/groundwater/bulletin118/gwbasins.cfm. Accessed November 19, 2015.

National Research Council, Committee on Hydrology, Ecology, and Fishes of the Klamath River. 2008. *Hydrology, Ecology, and Fishes of the Klamath River Basin*. http://www.nap.edu/download.php?record_id=12072#. Accessed November 20, 2015.

Federal Emergency Management Agency. 2011. Flood Insurance Rate Map. https://msc.fema.gov/portal. Accessed November 20, 2015.

National Resources Conservation Service. 2015. Klamath River Basin. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143_023523. Accessed November 20, 2015.

North Coast Regional Water Quality Control Board. 2012. 2012 303(d) List for the North Coast Region.

Siskiyou County. 1973. Siskiyou County General Plan. Conservation Element.

U.S. Environmental Protection Agency (EPA). 2015. Implementing Clean Water Act Section 303(d): Impaired Waters and Total Maximum Daily Loads (TMDLs). December.

U.S. Forest Service (USFS). 2015. Salmon River within the Klamath National WSR. http://www.fs.usda.gov/recarea/srnf/recreation/recarea/?recid=59663. Accessed November 20, 2015.

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.10 Land Use and Planning

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
10. **Land Use and Planning.** Would the project:				
a) Physically divide an established community?	☐	☐	☐	X
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?	☐	☐	X	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X

4.10.1 Environmental Setting

Existing uses adjacent to the project site are primarily private residences and forest. Caltrans maintains State Highway 96 and the ROW. USFS, Klamath National Forest and Six Rivers National Forest, manages federal lands within the project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping including grass lawns and exotic flowers (USFS, 1995).

Uses around the project site include logging, fuels management (including prescribed burning), dredging operations, private residences, and recreation associated with a national forest, such as hiking, fishing, and camping. Land in the project area is under the jurisdiction of USFS or privately owned.

No recreational activities are at the project site. However, a number of recreational activities are within and near the project area, including, fishing, hiking, mountain lakes and rivers, backpacking, back roads, hunting, rafting, campgrounds, and primitive camping.

The state highway is classified as Public Lands by Siskiyou County Planning Department. The majority of the land surrounding the project site is zoned Rural Residential Agricultural with a 40-acre minimum parcel size (R-R-B-40) with a small portion zoned R-R-B-5 (5-acre minimum) (CH2M HILL, 2015, pers. comm.). The project site is zoned General Forest by USFS.

State Highway 96 generally runs north to south through Siskiyou County. The project alignment is located beside the eastern bank of the Klamath River and is bordered by steep slopes in every direction.

4.10.2 Regulatory Setting

Federal

The project alignment and surrounding vicinity is managed by the *Klamath National Forest Land and Resource Management Plan* and the *Six River National Forest Management Plan*. The forest plans embody the provisions of the National Forest Management Act. Each plan provides the framework to guide the ongoing land and resource management operations of their respective forestland. Some of the goals of the plans are to provide a management program to reflect a mix of activities for the use and protection of the forest, and provide a source of data under the Forest and Rangeland Renewable Resource Planning Act assessments.

Siskiyou Telephone holds a special use permit for work on USFS land. Siskiyou Telephone has submitted an application to the Klamath National Forest and Six Rivers National Forest for modification of its use permit for construction and operation of the fiber optic broadband facility cable.

State

No state policies are directly applicable to the project site.

Local

The Siskiyou County Planning Department is responsible for land use and planning in Siskiyou County and on Siskiyou County ROW easements in the Klamath National Forest. The county relies on zoning and general plan designations as determined in Siskiyou County Code, Ordinance 15-14 and the Siskiyou County General Plan.

4.10.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM LU-1: Siskiyou Telephone would obtain permits to construct from USFS, Caltrans, and the CPUC.

Project Impacts and Impact Significance

10a) Would the project physically divide an established community?

Construction and Operational Impacts. The proposed project would place fiber optic broadband facility cable in existing roadways. Construction of the proposed project would not physically divide an established community because it would not restrict the movement of people and goods within the established community. Therefore, no impact would occur as a result of construction or operation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

10b) Would the project 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?

Construction and Operational Impacts. Siskiyou Telephone would obtain permits or permission to construct from USFS, Caltrans, and the CPUC (APM LU-1), and the project would not require any zoning modifications because the project would be consistent with existing uses; therefore, conflicts with land use plans, policies, or regulations would be less than significant.

Mitigation Measures. No mitigation is required.

10c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Construction and Operational Impacts. Klamath and Six Rivers National Forest lands in the project area are managed under their respective land and resource management plans; however, there are no habitat conservation plans or natural community conservation plans applicable to the project alignment, as discussed in Section 4.4, Biological Resources. The project would be consistent with existing uses along State Highway 96; therefore, construction of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.10.4 Works Cited

CH2M HILL/Heather Waldrop. 2015. Telephone conversation with Siskiyou County Planning Department/Brett Walker. December 17.

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.11 Mineral Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
11. **Mineral Resources.** Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	X
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?	☐	☐	☐	X

4.11.1 Environmental Setting

Siskiyou County has not classified the "significance of mineral deposits" into areas in which there are significant mineral resources. However, the Klamath National Forest contains a variety of mineral deposits. These minerals are classified by law into three groups: locatable minerals, leaseable minerals, and mineral materials. "Locatable minerals may be acquired through compliance with the General Mining Laws of 1872, as amended. Locatable minerals include gold, silver, platinum, chromite, copper and other minerals having unique and special values…Leasable minerals are commodities that may be

acquired under the Mineral Leasing Act of 1920, as amended. They include oil, gas and geothermal energy…Mineral materials on the Klamath National Forest are primarily common varieties of rock, gravel, sand, stone and volcanic cinders. These may be disposed of under the Materials Act of 1947, as amended, through a contract of sale" (Klamath National Forest, 2010).

Mining and panning began in Siskiyou County in 1849 and in Happy Camp in 1851; the town was supposedly named after the happiness a group of miners felt when they found this area with substantial "picking" promise (SiskiyouHistory.org, n.d.). Most gold mining ended in the twentieth century; however, some gemstone and other mining operations still continue (USGS, 2015).

4.11.2 Regulatory Setting

Federal

The prospecting, location, and development of mineral resources in the Klamath National Forest is authorized by the Forest Service Organic Administration Act of June 4, 1897. The act allows the Secretary of Agriculture to outline rules and regulations to mitigate impacts on surface resources and to define operations-related procedures authorized by the mining law (USFS, 2008)

The Surface Mining Control and Reclamation Act of 1977 established a program for regulating surface coal mining and reclamation activities. This act established mandatory standards for these activities on state and federal lands, including a requirement that adverse impacts on fish, wildlife, and related environmental values be minimized.

State

California Surface Mining and Reclamation Act. The Surface Mining and Reclamation Act of 1975 mandates mineral land classification (the MRZ) in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses that would preclude mineral extraction. The Surface Mining and Reclamation Act also allows the State Mining and Geology Board, after receiving classification information from the state geologist, to designate lands containing mineral deposits of regional or statewide significance.

California Division of Oil, Gas, and Geothermal Resources. PRC Section 3106 mandates the supervision of drilling, operation, maintenance, and abandonment of oil wells for the purpose of preventing the following:

- Damage to life, health, property, and natural resources
- Damage to underground and surface waters suitable for irrigation or domestic use
- Loss of oil, gas, or reservoir energy
- Damage to oil and gas deposits by infiltrating water and other causes

Local

Siskiyou County addresses the conservation and use of natural, cultural, historical, and archaeological resources in the community, but does not have a specific regulation or ordinance regulating mineral deposits. The *Siskiyou County Comprehensive Land and Resource Management Plan* serves to protect, conserve, and enhance the cultural and economic diversity within the county and to take no actions that diminish or tend to diminish the political and legislative jurisdiction of the State of California or the County of Siskiyou in the civil governance of its citizens in regard to the interests of the health, safety, welfare, or morals of its citizens and the general prosperity of its communities and the county as a whole (Siskiyou County, 1996).

4.11.3 Impacts and Mitigation Measures

Applicant Proposed Measures

No APMs for mineral resources are recommended for the proposed project.

Project Impacts and Impact Significance

11a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Construction and Operational Impacts. No mineral resources of value have been identified within the cable alignment. In addition, no loss of availability of a known mineral resource of value to the region and the residents of the state would result from the construction or operation of the proposed project. Therefore, no impact would occur as a result of implementation of the proposed project.

Mitigation Measures. No mitigation is required.

11b) Would the project 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?

Construction and Operational Impacts. The proposed project would not result in the loss of availability of a locally important mineral resources recovery site because the project site is within existing roadways and roadway shoulders where no mineral resources are known to exist. Therefore, no impact would occur as a result of implementation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

4.11.4 Works Cited

Klamath National Forest. 2010. *Klamath National Forest Plan*. July 29.

SiskiyouHistory.org. 2015. 1850-1874. http://www.siskiyouhistory.org/1850.html. Accessed November 23, 2015.

Siskiyou County. 1996. *Siskiyou County Comprehensive Land and Resource Management Plan*. February.

U.S. Geological Survey (USGS). 2015. Mineral Resources Data System. July 9. http://mrdata.usgs.gov/mrds/. Accessed November 23, 2015.

U.S. Forest Service (USFS). 2008. *The U.S. Forest Service – An Overview*.

4.12 Noise

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
12. **Noise.** Would the project:				
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?	☐	☐	X	☐
b) Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels?	☐	☐	X	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	X	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	X

4.12.1 Environmental Setting

The project area is located in a rural setting with few noise-generating sources. Noise from State Highway 96 is minimal because of the remote location in the Klamath National Forest and because the roadways are primarily used for residential access. State Highway 96 ambient noise is estimated between 71 and 80 dB. Other noise-generating activities in the project area include small gas-powered motors from mining equipment on patented mining claims located on the Klamath River and other creeks in the project area.

A small airstrip is located near Happy Camp, approximately 1.3 miles north of the northernmost portion of the project alignment. The Siskiyou County General Plan, Noise Element describes the airport and its use as doubling from its reported use in 1978; however, it was not expected that noise effect would significantly increase (Siskiyou County, 1978).

4.12.2 Regulatory Setting

Federal

The following federal legislation pertains to noise:

- Noise Pollution and Abatement Act of 1970
- Trust Communities Act of 1978
- Noise Control Act of 1972
- Occupational Safety and Health Act of 1970

However, for environmental impact evaluations of local projects, local noise ordinances and policies are generally used as guidance for setting noise-related significance standards.

State

California Government Code, Section 65302(f), mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the California Department of Public Health.

Local

The Siskiyou County General Plan, Noise Element (Siskiyou County, 1978) contains compatibility criteria for a variety of land uses. The Noise Element is intended to provide sensitivity to the noise impacts of existing and future land uses.

The Siskiyou County General Plan lists the acceptable external and internal noise environments at 60 and 45 day-night noise level, respectively. In addition, suggested peak noise levels generated from construction activities are listed in the Siskiyou County General Plan, and range from 75 to 95 decibels (A-weighted scale) (dBA). The Noise Element states that the criteria for construction equipment are relatively lenient because such activities are temporary and difficult to avoid (Siskiyou County, 1978).

4.12.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM NOI-1: During construction of the proposed project, the following BMPs would be implemented to minimize noise impacts:

- Construction activity would be restricted to the hours between 7 a.m. and 7 p.m. on weekdays. Work on weekends would need to be coordinated with the Siskiyou County Planning Department as needed.
- All stationary noise-generating equipment would be located as far as possible from nearby noise-sensitive receptors.
- Construction equipment powered by gasoline or diesel engines would have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment would be allowed to have an un-muffled exhaust, as appropriate.
- The construction contractor would ensure that noise-generating mobile equipment and machinery are turned off when not in use.

Project Impacts and Impact Significance

12a) Would the project result in 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?

Construction Impacts. Noise impacts associated with the proposed project would be generated from temporary construction activities. Noise levels resulting from construction depend on several factors, such as the number and type of machines operating, the level of operation, and the distance between sources, sound, and noise receptors. Heavy construction equipment would be used during construction of the proposed project (see Table 3-1). Table 4-7 lists the typical noise levels associated with common construction equipment at various distances.

Construction activity peak noise levels could reach 88 dBA at 50 feet, which is less than the Siskiyou County generally acceptable noise level for construction activities, 95 dBA. Construction would move along the project site and not be stationary in any location for an extended period. Therefore, exposure to noise generated from construction activities at high noise levels within 50 to 100 feet of an individual residence is anticipated to occur for a minimal amount of time at any one location along the project site. In addition, implementation of APM NOI-1 would reduce noise resulting from temporary construction activities; therefore, noise impacts from construction would be less than significant.

Table 4-7. Noise Levels from Common Construction Equipment at Various Distances (dBA)
Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Construction Equipment	Typical Sound Pressure Level at 50 feet	Expected Sound Pressure Level[a] at		
		1,000 feet	2,500 feet	5,000 feet
Front-end Loader (6 to 15 cubic yards)	88	62	54	48
Truck (200 to 400 horsepower)	86	60	52	46
Grader (13- to 16-foot blade)	85	59	51	45
Shovel (2 to 5 cubic yards)	84	58	50	44
Portable Generators (50 to 200 kilowatts)	84	58	50	44
Concrete Pumps (30 to 150 cubic yards)	81	55	47	41
Tractor (0.75 to 2 cubic yards)	80	54	46	40

[a] The expected sound pressure levels were calculated from geometric divergence only. Other factors, such as atmospheric absorption and ground effects should reduce the noise levels further.

Source: Barnes et al., 1976

Operational Impacts. Noise would not result from operation of the proposed project because the project components are not noise generating. Therefore, no impact would occur with operation of the proposed project.

Mitigation Measures. No mitigation is required.

12b) Would the project result in exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels?

Construction Impacts. Construction activities (for example, ground-disturbing activities, including grading, directional drilling, and movement of heavy construction equipment) could generate ground borne vibration and noise. Pile-driving activities are typically the construction activity with the greatest potential to create ground borne vibration and noise, but pile driving is not currently anticipated to be needed for project construction. Ground borne vibration and noise associated with construction activities are not anticipated to be excessive with the use of the typical construction equipment to be used on this project. In addition, implementation of APM NOI-1 would reduce ground borne vibration associated with noise to minimal levels. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. No ground borne vibration or noise would be generated by the activities associated with operation; therefore, the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

12c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction Impacts. Noise from construction of the proposed project would be temporary (approximately 6 months over a 2-year period) and result in no permanent increase in ambient noise levels. Therefore, construction of the proposed project would result in no impact under this criterion.

Operational Impacts. No permanent increase in ambient noise levels in the project area would occur above levels existing without the project. Therefore, operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

12d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction Impacts. Construction activities would be temporary and limited to daytime hours that are consistent with the local requirements. Implementation of BMPs listed in APM NOI-1 would reduce noise impacts, and temporary noise during construction would not be substantial. Therefore, construction of the proposed project would result in a less than significant impact.

Operational Impacts. No substantial temporary or periodic increase in ambient noise levels in the project area above levels existing without the project would occur; therefore, there would be no impact.

Mitigation Measures. No mitigation is required.

12e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Construction Impacts. The project is not located within an airport land use plan. As described in Section 4.8.3, the northernmost portion of the project and the disposal site are located within 2 miles of an airstrip, with the majority of the project alignment beyond 2 miles. Workers could be intermittently exposed to noise levels from aircraft landing on the airstrip. However, because of the infrequency of use on the airstrip and distance from the majority of the project alignment, the proposed project would result in less than significant impacts under this criterion.

Operational Impacts. Regular maintenance activities would occur along the project alignment, the majority of which would not be within a 2-mile vicinity of the airstrip. Infrequent air traffic would not expose workers to excessive noise levels; therefore, impacts would be less than significant.

Mitigation Measures. No mitigation is required.

12f) 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?

Construction and Operational Impacts. Because the majority of the project site is not located within 2 miles of a private airstrip, the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.12.4 Works Cited

Barnes, J.D., L.N. Miller, and E.W. Wood. 1976. *Prediction of Noise from Power Plant Construction*. Bolt Beranek and Newman, Inc. Cambridge, Massachusetts. Prepared for the Empire State Electric Energy Research Corporation, Schenectady, New York.

Siskiyou County. 1978. Siskiyou County General Plan. Noise Element. December.

4.13 Population and Housing

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
13. **Population and Housing.** Would the project:				
a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	X	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X

4.13.1 Environmental Setting

The project alignment is in a rural area in Siskiyou County. An estimated 44,000 people are within the county. There are approximately seven residences along the 17-mile project alignment.

4.13.2 Regulatory Setting

Federal

No federal policies are directly applicable to the project site.

State

The CEQA Guidelines, Appendix G, require consideration of a project's potential to result in temporary and permanent impacts on population and housing.

Local

No local policies are directly applicable to the project site.

4.13.3 Impacts and Mitigation Measures

Applicant Proposed Measures

No APMs for population and housing are recommended for the proposed project.

Project Impacts and Impact Significance

13a) Would the project 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)?

Construction Impacts. The proposed project would provide existing residents with telephone service. No new homes or businesses are being proposed under this project, nor is the proposed project anticipated to induce population growth, either directly or indirectly. The project is not a form of infrastructure similar to roads, water, or sewer lines, which can induce population growth in specific areas. Most, if not all, project construction workers are expected to originate from the local labor pool and would not relocate from areas outside the project area. Additionally, because of the temporary nature of construction, any non-regional workers would only be expected to remain in the region for the

duration of project construction. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not induce substantial population growth in the project area, either directly or indirectly. Furthermore, operation of the proposed project would not include or induce the construction of new homes and businesses, or require the construction of roads or other infrastructure. Therefore, operation of the proposed project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

13b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Construction and Operational Impacts. Construction and operation of the proposed project would not displace existing housing, necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur as a result of implementation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

13c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Construction Impacts. Construction of the proposed project would not displace people, necessitating the construction of replacement housing elsewhere. The proposed project would use the local workforce and would not require the relocation of workers from outside the region. Furthermore, construction of the proposed project would not involve the displacement of existing housing. Therefore, no impact would occur as a result of implementation of the proposed project.

Operational Impacts. Operation of the proposed project would not displace people, necessitating the construction of replacement housing elsewhere. Personnel needed to operate and maintain the proposed project would be drawn from Siskiyou Telephone's existing workforce. Therefore, no impact would occur as a result of implementation of the proposed project.

Mitigation Measures. No mitigation is required.

4.14 Public Services

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
14. **Public Services.** Would the project 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:				
a) Fire protection?	☐	☐	X	☐
b) Police protection?	☐	☐	X	☐
c) Schools?	☐	☐	☐	X
d) Parks?	☐	☐	☐	X
e) Other public facilities?	☐	☐	☐	X

4.14.1 Environmental Setting

USFS provides fire protection services and dispatches a volunteer ambulance crew located in Happy Camp to respond to medical emergencies in the project area. The Siskiyou County Sheriff's Department provides police protection services for the project area. The California Highway Patrol provides traffic enforcement on all roadways in the unincorporated areas of Siskiyou County. In addition, USFS provides police protection services for property surrounding the project site.

Children residing in or near the project area are in the Happy Camp School District; there is an elementary school and a high school located in Happy Camp.

There are no parks or recreational amenities within the project area. However, a number of recreational activities are practiced in the project area, including, but not limited to, fishing, hiking, backpacking, hunting, rafting, campgrounds, and primitive camping (see Section 4.15, Recreation). There are no municipal parks in the vicinity of the project site.

4.14.2 Regulatory Setting

Federal

The Fire Management and Law Enforcement Resource Management Programs of the *Klamath National Forest Land and Resource Management Plan* and 36 CFR 251, set forth policies and regulations that pertain to the project area. USFS maintains fully trained law enforcement and fire management forces to protect USFS resources and property, and the public. With exception of uses authorized by regulations in Section 212.9, Part 222, Part 223, and Part 228, all uses of National Forest System lands require a special use authorization (USFS, 1995).

State

The Siskiyou County Sheriff's Department provides police protection services for the project area. The California Highway Patrol provides traffic enforcement on all roadways in the unincorporated areas of Siskiyou County.

Local

No local policies are directly applicable to the project site.

4.14.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM PS-1: Construction schedules would be submitted to local emergency service providers for review and comment, and updated as necessary. In addition, fire extinguishers and shovels would be maintained onsite during periods of construction or site activity for immediate fire control, if needed.

Project Impacts and Impact Significance

14) Would the project 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 14a) fire protection; 14b) police protection; 14c) schools; 14d) parks; or 14e) other public facilities?

Construction Impacts. The proposed project would not result in physical impacts associated with new or altered government facilities because the project would not require such facilities to be constructed or altered to maintain acceptable service ratios, response times, or other performance objectives for 14a) fire protection, 14b) police protection, 14c) schools, 14d) parks, or 14e) other public facilities.

Construction of the proposed project is not anticipated to place additional demand on police and fire protection services. During project construction, potential traffic delays could affect police and fire response. Notification to local emergency service providers (APM PS-1) prior to construction would address impacts on emergency response times, thereby minimizing the potential impact from construction activities on police or fire service response times in the area. Additionally, one full, 16-foot-wide lane would be available for emergency traffic at all times. These potential impacts would be less than significant.

Flaggers would control traffic encountered during construction activities. Traffic delays might be as long as 10 to 15 minutes to finish loading a truck, and then the truck would move and traffic could proceed. In the case of an emergency, or if an emergency vehicle needed to pass, the equipment would move immediately. In addition, all project components would be laid out along the construction route each morning to minimize the presence of construction vehicles during construction.

There are no schools, parks, or public facilities located in the project area. The proposed project would not affect the performance of school-aged children, attract additional visitors to the Klamath National Forest, or place an increased demand on other public facilities in the project area. Therefore, the proposed project would cause no impact under this criterion.

Operational Impacts. Operation of the project would not place additional demand on police and fire protection services because population growth is not anticipated to occur as a result of the proposed project. Operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.14.4 Work Cited

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.15 Recreation

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
15. **Recreation.** Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	X

4.15.1 Environmental Setting

The project site is located in the Klamath National Forest. There are no recreational amenities at the project site. However, a number of recreational activities are practiced in the project area, including, but not limited to, fishing, hiking, backpacking, hunting, rafting, campgrounds, and primitive camping (Total Escape, 2015).

According to the *Klamath National Forest Plan* (Klamath National Forest, 2010), there are over 200 miles of river system for rafting, including 152 miles of National Wild and Scenic Rivers, and 381,000 acres of wilderness in five wilderness areas. In addition, developed recreational sites consist of 30 campgrounds, 2 picnic grounds, 9 trailheads, 3 observation sites, and 7 visitor information sites. Twenty percent of recreational use occurs at these developed recreation sites. The other 80 percent of recreational use is dispersed. "Dispersed recreation is outdoor recreation that involves relatively low density use and occurs over broad expanses of land or water" (Klamath National Forest, 2010).

The closest recreational facilities to the project site are Elk Creek and Curley Jack Campgrounds, located approximately 1.25 miles north of the project site, but on the other side of the Klamath River, making the driving distance over 3 miles. There is also a recreational site, Dillion Creek Campground, located near the project alignment less than 0.25 mile from State Highway 96.

4.15.2 Regulatory Setting

Federal

Title 16, U.S. Code, Chapter 2, National Forests includes laws governing the establishment and administration of national forests (USFS, 2015).

The Recreation Management portion of the *Klamath National Forest Land and Resource Management Plan* sets forth policies to maintain recreational opportunities within the forest, including trail management (USFS, 1995).

State

No state policies are directly applicable to the project site.

Local

An Open Space Element is maintained in the Siskiyou County General Plan. Open space land includes unimproved land that is devoted to natural resources, agricultural uses, recreational uses, scenic uses, watershed and groundwater recharge, and wildlife habitat (Siskiyou County, 1972).

4.15.3 Impacts and Mitigation Measures

Applicant Proposed Measures

No APMs for recreation resources are recommended for the proposed project.

Project Impacts and Impact Significance

15a) 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?

Construction and Operational Impacts. There are no neighborhood and regional parks or other recreational facilities within the project area, nor would the project induce or accelerate the deterioration of any local recreational amenity. Access to the Dillion Creek Campground would be maintained during construction. Therefore, no impact would occur as a result of implementation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

15b) 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?

Construction and Operational Impacts. Construction and operation of the proposed project includes the installation of fiber optic broadband facility cable and does not include recreational facilities or require

the construction or expansion of recreational facilities. Therefore, no impact would occur as a result of implementation of the proposed project under this criterion.

Mitigation Measures. No mitigation is required.

4.15.4 Works Cited

Klamath National Forest. 2010. *Klamath National Forest Plan*. July 29.

Total Escape. 2015. Recreation. national.forest.klamath. http://www.totalescape.com/active/campstuff/NF/klamthnf.html#.VlOzfXarT0M. Accessed November 23, 2015.

Siskiyou County. 1972. Open Space Element, General Plan for Siskiyou County, California. June.

U.S. Forest Service (USFS). 2015. Title 16: United States Code. http://www.fs.fed.us/about-agency/regulations-policies/laws-regulations. Accessed November 23, 2015.

4.16 Transportation and Traffic

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
16. **Transportation and 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?	☐	☐	X	☐
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?	☐	☐	☐	X
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?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	X	☐
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?	☐	☐	☐	X

4.16.1 Environmental Setting

The project is located on State Highway 96 within the Klamath National Forest. State Highway 96 generally runs north to south through Siskiyou County. Between Happy Camp and Somes Bar, the highway is located beside the eastern bank of the Klamath River and is bordered by steep slopes in every direction. The project area is located within an area managed by USFS, but Caltrans owns and maintains the highway. Average daily vehicle trips along State Highway 96 ranges from 3.4 to 25.9 vehicles per day, per mile (California Highways, 2015).

The primary means of traveling Siskiyou County is by automobile due to the rural nature of the local communities, low development densities, and limited alternative travel options. The closest commercial airport in relation to the project site is in Medford, Oregon, over 100 miles away. The nearest non-commercial airstrip is the Happy Camp Airport, which is approximately 1.3 miles from the northernmost portion of the proposed project site. The airstrip is not used for commercial flights and is only suitable for small planes and helicopters (typically used by local medical centers and USFS). There is one passenger train stop in the county, operated by Amtrak, located in Dunsmuir, also over 100 miles from the project site. The Siskiyou County Local Transportation Commission is the designated Regional Transportation Planning Agency for Siskiyou County (Siskiyou County, 2011).

4.16.2 Regulatory Setting

Federal

No federal policies are directly applicable to the project site.

State

No state policies are directly applicable to the project site.

Local

The Siskiyou County General Plan includes a Circulation Element. The Circulation Element includes policies and standards to be applied to ROW acquisition and road development. The Circulation Element is designed to be used as a working document with the Land Use Element (Siskiyou County, 1988).

4.16.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM TRF-1: The use of traffic control measures would ensure that the effects on traffic would not create unsafe conditions. In addition, Siskiyou Telephone would inform residents in Happy Camp of construction activities and potential delays.

Project Impacts and Impact Significance

16a) Would the project 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?

Construction Impacts. Construction of the proposed project would not increase traffic substantially, in relation to the existing traffic load and capacity of the street system. Although traffic on roadways would temporarily increase as a result of construction vehicles and equipment near the proposed project, this increase in traffic is not anticipated to cause a significant impact on transportation and traffic in the area. Construction of the project would not conflict with the policies and standards established in the

county's ordinances; therefore, construction would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not increase traffic substantially, in relation to the existing traffic load and capacity of the street system. The system would require periodic maintenance, but vehicle use of the roadway would be minimal. The roadway shoulder is wide enough to accommodate vehicles without causing traffic delays. Therefore, operation of the proposed project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

16b) Would the project 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?

Construction and Operational Impacts. There are no congestion management programs applicable to the project area; therefore, construction and operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

16c) Would the project 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?

Construction and Operational Impacts. Construction and operation of the proposed project would not result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks. The proposed fiber optic broadband facility cable would be buried underground; and the aboveground components, such as utility boxes, would not constitute a new obstruction to navigable air space. Therefore, construction of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

16d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction and Operational Impacts. Construction and operation of the proposed project would not substantially increase hazards due to a design feature or incompatible uses because the project would not involve, create, or increase hazards within the roadway. The project alignment would be returned to preconstruction conditions; therefore, construction of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

16e) Would the project result in inadequate emergency access?

Construction Impacts. Construction of the proposed project would not result in inadequate emergency access. During project construction, potential traffic delays could affect police and fire response or access by private residents. Notifying local emergency service providers and residents near the project site, prior to construction, would address impacts on emergency response times, thereby minimizing the potential impact from construction activities. Implementation of APM TRF-1 would reduce potential impacts on emergency access along roadways in the project area. Additionally, one full, 16-foot-wide lane would be available for emergency traffic at all times. Therefore, construction of the proposed project would result in a less than significant impact under this criterion.

Operational Impacts. Operation of the proposed project would not result in inadequate emergency access because operation of the proposed project would not affect access to roadways. The project components would require periodic maintenance, but vehicle use of the roadway to maintain service

would be minimal. The roadway shoulder is wide enough to accommodate vehicles without traffic delays. Therefore, operation of the proposed project would result in a less than significant impact under this criterion.

Mitigation Measures. No mitigation is required.

16f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction and Operational Impacts. There are no adopted policies, plans, or programs applicable to the project area regarding public transit, bicycle, or pedestrian facilities; therefore, construction and operation of the proposed project would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.16.4 Works Cited

California Highways. 2015. Highway Statistics. http://www.cahighways.org/stats3.html. Accessed December 30, 2015.

Siskiyou County. 1988. Siskiyou County General Plan. Circulation Element. March 16.

Siskiyou County. 2011. *Siskiyou County 2010 Regional Transportation Plan*. March.

4.17 Utilities and Service Systems

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
17. **Utilities and Service Systems.** Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
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 impacts?	☐	☐	☐	X
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 impacts?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	X	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	X	☐

4.17.1 Environmental Setting

This section evaluates the potential impacts of the proposed project on utilities and service systems (that is, water supply, wastewater treatment, electricity, and solid waste).

There are no public water supply facilities or sanitary sewer collection facilities in the project area. The nominal amount of development that exists adjacent to the project area is served by private water and wastewater treatment systems.

There are no power-producing facilities in the project area. The residences adjacent to the project site generally meet their energy needs either through access to hydroelectric-fed power lines owned and operated by Pacific Power, a PacifiCorp subsidiary, or by using propane, solar energy, or generators, which may be the only options for many of the residents in the rural area.

Siskiyou Telephone is the local telephone service provider in the region; currently, there is no telephone or internet service within the project area.

Solid waste generated in the project area would be transported offsite daily to the Happy Camp disposal site. Portable toilets would be serviced weekly by an outside vendor, and waste would be transported offsite to an approved, permitted facility.

4.17.2 Regulatory Setting

Federal

The Lands Program Management section of the *Klamath National Forest Land and Resource Management Plan* sets forth policies for utility corridors on national forest land surrounding the project site (USFS, 1995).

State

No state policies are directly applicable to the project site.

Local

No local policies are directly applicable to the project site.

4.17.3 Impacts and Mitigation Measures

Applicant Proposed Measures

APM UTL-1: Solid waste generated in the project area during construction is anticipated to be minimal and would be transported offsite daily to the Happy Camp disposal site.

Project Impacts and Impact Significance

17a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Construction and Operational Impacts. Construction of the proposed project or project operations would not require the disposal of wastewater and, therefore, would have no impact on existing wastewater treatment requirements of the applicable RWQCB. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

17b) Would the project 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 impacts?

Construction and Operational Impacts. The project does not include the development of new roadways or residential/commercial developments, and neither construction activities nor project operations would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

17c) Would the project 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 impacts?

Construction Impacts. Storm water drainage is established along the highway. Construction activities do not include the development of new roadways or residential/commercial developments; thus, the project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, and all affected drainages would be restored to preconstruction conditions. Therefore, construction activities would cause no impact under this criterion.

Operational Impacts. Construction of the project's utility boxes would create approximately 780 square feet (less than 0.02 acre) of impervious area. Project impacts on surface runoff would be less than significant, and the amount of runoff would not exceed the capacity of the existing storm water drainage system along the highway. Disturbed areas would be restored to grade and would not alter or increase the rate or volume of surface runoff. The existing storm water drainage system would continue to have adequate capacity to handle surface runoff.

Project operations would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

17d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Construction Impacts. Construction activities could include the use of water for dust suppression. Existing entitlements and resources have sufficient water supplies available for onsite dust-suppression activities. Therefore, construction activities would cause no impact under this criterion.

Operational Impacts. Project operations would not require new water or new or expanded water entitlements. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

17e) Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Construction Impacts. No wastewater treatment provider currently exists in the project area. During construction, portable toilets brought onsite for the projected maximum number of 50 personnel would be serviced weekly by an outside vendor, and waste would be transported offsite and disposed of in accordance with state and federal requirements. Project impacts would not cause an exceedance for the existing wastewater treatment provider.

Operational Impacts. Project operations would not produce wastewater. Therefore, the project would cause no impact under this criterion.

Mitigation Measures. No mitigation is required.

17f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction Impacts. Excess excavated materials generated during construction would be transported offsite daily to the Happy Camp disposal site. Other solid waste generated in the project area during construction is anticipated to be minimal and would be transported offsite daily. Therefore, construction activities would cause a less than significant impact under this criterion.

Operational Impacts. Project operations would not produce solid waste or require solid waste disposal. Therefore, operation would result in no impact under this criterion.

Mitigation Measures. No mitigation is required.

17g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Construction Impacts. The project's solid waste materials would be handled, transported, and disposed of in a lawful manner that is consistent with federal, state, and local regulations. Solid waste generated in the project area during construction is anticipated to be minimal and would be transported offsite daily to the Happy Camp disposal site. Therefore, the project would cause a less than significant impact.

Operational Impacts. Project operations would not produce solid waste or have solid waste disposal needs. Therefore, the project would have no impact under this criterion.

Mitigation Measures. No mitigation is required.

4.17.4 Work Cited

U.S. Forest Service (USFS). 1995. *Klamath National Forest Land and Resource Management Plan*. Amended 2010.

4.18 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
18. **Mandatory Findings of Significance.** Would the project:				
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?	☐	☐	X	☐
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)?	☐	☐	X	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	X	☐

4.18.1 Applicant Proposed Measures

No APMs for mandatory findings of significance are recommended for the proposed project.

4.18.2 Project Impacts and Impact Significance

18a) Would 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?

The proposed project would provide telephone and broadband service capability to the residences in the Happy Camp and Somes Bar areas. The project site is located in existing roadways. Given the temporary and localized nature of project impacts and implementation of the APMs, the proposed project is not anticipated to substantially affect biological resources or major areas of California history or prehistory.

18b) Would the project have impacts that are individually limited, but cumulatively considerable?

Given the temporary and localized nature of project impacts, implementation of the project is not anticipated to result in significant adverse cumulative effects. The proposed project does not have the potential to cause impacts that are individually limited, but cumulatively considerable, as discussed in Section 5.

18c) Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potential impacts associated with the proposed project would be less than significant, as discussed in previous resource sections. Therefore, given the temporary and localized nature of project, implementation of the proposed project would not cause substantial adverse direct or indirect effects on human beings.

SECTION 5

Cumulative Analysis

Cumulative impacts are the effects on the environment that result from the incremental impacts of the project when considered together with other closely related past, present, and reasonably foreseeable future projects. This PEA uses a CEQA-style format to evaluate cumulative impacts. Under CEQA, cumulative impacts are defined as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355).

CEQA provides two alternative methods for evaluating cumulative impacts (CEQA Guidelines, Section 15130), typically referred to as the projections approach or the list approach. These approaches are summarized as follows:

- **Projections Approach.** A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, that described or evaluated regional or area wide conditions contributing to the cumulative impact.
- **List Approach.** A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, projects outside the control of the agency.

The list approach was chosen as the most effective method of analyzing cumulative impacts in this PEA. The following is a list of other projects anticipated to be constructed at the same time and considered in this assessment of cumulative impacts:

- The Klamath Basin Restoration Agreement is a comprehensive plan to address many water-related issues in the Klamath Basin, including water quality issues in the Klamath River. Implementation of the actions included in the Klamath Basin Restoration Agreement are not anticipated to occur in the 2016/2017 timeframe.
- The Klamath River Bridge Replacement Project includes the replacement of Bridge No. 02-0015 to meet seismic and roadway standards. This project is scheduled for construction from May 2018 to January 2021.
- The McAdams Creek Bore and Highway 96 Project is a Siskiyou Telephone undertaking that includes the directional boring for the installation of conduits to support a network of fiber optic cable and copper distribution cable. This project is scheduled for construction from April 2016 through October 2017.

5.1 Aesthetics

Construction-related visual impacts would be temporary and, therefore, not cumulatively considerable. Utility boxes would be at ground level and would blend in with the surrounding roadway, and would not substantially degrade the existing visual character or quality of the project site and its surroundings. The incremental effect of project features on local aesthetics was determined not to be cumulatively considerable with dredging activities or other projects previously described.

5.2 Agriculture and Forest Resources

There would be no impact on agriculture and forest resources from construction or operation of the proposed project; therefore, impacts would not be cumulatively considerable.

5.3 Air Quality

Emissions during construction would be temporary, and the project site is in a remote location. The incremental effect of emissions generated by project construction activities on air quality was not determined to be cumulatively considerable. There would be no impact on air quality from operation of the project; therefore, impacts would not be cumulatively considerable.

5.4 Biological Resources

Construction-related impacts on biological resources in the project area include potential impacts on special-status species, sediment transport to nearby waterways, species migrating through the project site, and the spread of noxious weeds. Identified AMPs would reduce potential impacts to a less than significant level. Therefore, the incremental effect of the proposed project would not be cumulatively considerable. In addition, it is expected that the other projects in the area would be required to follow similar guidelines. There would be no impact on biological resources from operation of the project; therefore, impacts would not be cumulatively considerable.

5.5 Cultural Resources

Improvements related to construction of the project could affect unknown subsurface cultural resources. APMs include the obligation to stop construction if potential archaeological, historical, or paleontological resources are uncovered. This requirement is consistent with typical requirements for unknown cultural resources, and it is expected that the other projects in the area disturbing ground surface would follow the same standards. Because the potential impact would be localized (that is, related to discrete finds of cultural resources), the incremental effect of the project would not be cumulatively considerable.

5.6 Geology and Soils

Potential construction-related soils impacts would be controlled with BMPs to provide an adequate combination of erosion and sediment controls and, therefore, would not be cumulatively considerable. There would be no impact on geology, soils, and seismicity from operation of the project; therefore, impacts would not be cumulatively considerable.

5.7 Greenhouse Gas Emissions

GHG emissions during construction would be temporary, and the project site is in a remote location. The incremental effect of emissions generated by project construction activities was not determined to be cumulatively considerable. There would be negligible GHG emissions from operation of the project; therefore, impacts would not be cumulatively considerable.

5.8 Hazards and Hazardous Materials

To prevent the release of hazardous materials into the environment, potential construction-related hazardous material impacts would be controlled with BMPs for the transport, storage, use, and disposal of hazardous materials. Therefore, these impacts would not be cumulatively considerable. There would be no impact from hazards and hazardous materials from operation of the project; therefore, impacts would not be cumulatively considerable.

5.9 Hydrology and Water Quality

Potential construction-related water quality impacts would be controlled with BMPs for the transport, storage, use, and disposal of hazardous materials, and an adequate combination of erosion and sediment controls. The incremental effect of the project would not be cumulatively considerable.

The incremental effect of the project's aboveground facilities on flood flows, in comparison with dredging activities in the project area, would not be cumulatively considerable.

There would be no impact on hydrology and water quality from operation of the project; therefore, impacts would not be cumulatively considerable.

5.10 Land Use and Planning

Construction-related land use and planning impacts would be temporary and, therefore, would not be cumulatively considerable. It is expected that federal, state, and local permitting and planning agencies, as applicable, would be included in the permitting, final design, and construction phases of other projects in the area to ensure that conflicts with existing land uses are minimized or avoided. Therefore, the incremental effect of the project would not be cumulatively considerable.

5.11 Mineral Resources

Construction-related impacts on access of local mineral resources related to dredging activities would be temporary and, therefore, would not be cumulatively considerable. There would be no cumulative impact on mineral resources from operation of the project; therefore, impacts would not be cumulatively considerable.

5.12 Noise

Construction-related noise impacts would be temporary and, therefore, would not be cumulatively considerable. There would be no impacts from operation of the project; therefore, impacts would not be cumulatively considerable.

5.13 Population and Housing

Project construction activities would cause no impact on population and housing resources in the affected area; therefore, impacts would not be cumulatively considerable. Project impacts could include indirectly inducing incremental population growth because telephone infrastructure would be provided where none presently exists; those impacts are addressed in Section 6, Growth-Inducing Impacts.

5.14 Public Services

Construction-related impacts on public services would be temporary and, therefore, would not be cumulatively considerable. In addition, submitting construction schedules to local emergency service providers is a typical mitigation measure, and it is expected that other projects in the area that could affect emergency services would follow the same standard. There would be no impact on public services from operation of the project; therefore, impacts would not be cumulatively considerable.

5.15 Recreation

There would be no impact on recreation resources from construction or operation of the project; therefore, impacts would not be cumulatively considerable.

5.16 Transportation and Traffic

Construction-related impacts on transportation and traffic would be temporary and limited to the project area; therefore, these impacts would not be cumulatively considerable. In addition, submitting a traffic management plan to Siskiyou County is a typical mitigation measure, and it is expected that other projects in the area that could affect transportation and traffic would follow the same standard. There would be no impact on transportation and traffic from operation of the project; therefore, impacts would not be cumulatively considerable.

5.17 Utilities and Service Systems

It is anticipated that solid waste generated in the project area during construction would be minimal, and the incremental effect of the project would not be cumulatively considerable. There would be no impact on utility service systems from operation of the project; therefore, impacts would not be cumulatively considerable.

SECTION 6

Growth-Inducing Impacts

Growth-inducing impacts are best defined in the CEQA Guidelines. Specifically, Section 15126(g) of the CEQA Guidelines states the following:

> Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

As discussed in Section 2, Project Purpose and Need and Objectives, the purpose of the proposed project is to provide telephone and broadband service to residences along the project alignment through the installation of fiber optic broadband facility cable. The project is different from infrastructure-type projects, such as roads, water, or sewer lines, which can induce population growth in specific areas. The purpose of the project is to serve existing telephone and internet demand. People generally consider a number of factors (such as, economic opportunities, quality of schools) when making a decision to locate in a given area. Therefore, the proportional contribution of the availability of telephone service to future growth in the area is too speculative for analysis. It is not anticipated that construction and operation of the proposed project would be growth-inducing. Therefore, the proposed project would result in no growth-inducing impacts.

SECTION 7

Applicant Proposed Measures

Section 4 of this PEA identified measures proposed by the applicant to reduce potential impacts on the environment. These measures are shown in Table 7-1. With incorporation of these measures, no significant impacts would result from project implementation.

Table 7-1. Applicant Proposed Measures

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Number	Description
APM AQ-1	To reduce fugitive emissions, construction of the proposed project would occur during the dry season (April through October). Water trucks would be present onsite to wet down the work area, including materials such as backfill and other construction components.
APM BIO-1	To minimize the likelihood of potential adverse effects on nesting birds and raptors, preconstruction nesting surveys would be conducted during the January 31 through August 31 bird nesting season. If active nests are observed prior to construction, a qualified biologist would be retained to monitor construction within 50 feet of the active nest for passerines or 300 feet for raptors.
APM BIO-2	To minimize the likelihood of potential adverse effects on wildlife near the 10 stream crossings, preconstruction wildlife surveys would be conducted. In addition, a qualified biologist would be retained to monitor construction during directional boring activities.
APM BIO-3	To minimize the potential for wildlife to become trapped in open trenches, each excavation would be securely backfilled or covered at the end of each work day. Only excavated onsite native materials would be used to backfill trenches. One side of each excavation would be ramped to allow wildlife egress in the unlikely event that entrapment occurs.
APM BIO-4	Construction access, and material laydown and staging would occur only on existing roads and previously disturbed sites.
APM BIO-5	To reduce the introduction and spread of noxious weeds, the project would use construction equipment that is currently being used near the project area in the Klamath National Forest and Six Rivers Forest. This equipment would not be used elsewhere prior to construction without proper decontamination procedures applied prior to deployment.
APM BIO-6	Spoils known to contain noxious weed propagules or that otherwise do not meet Caltrans backfill specifications would be removed.
APM BIO-7	Temporary construction equipment sound levels would not exceed 90 dB.
APM CUL-1	Prior to construction, workers would be provided with environmental awareness training to recognize potential archaeological or paleontological resources and identify and address any unearthed human remains during construction. If archaeological or paleontological materials are uncovered, construction activities and excavation should be conducted to avoid the resources. All construction work within 100 feet of the resource would be halted until a qualified archaeologist (or paleontologist) can assess the find. The archaeologist (or paleontologist) would assess the find and make any necessary recommendations, including any procedures to further investigate or mitigate impacts on the find as required by law, including CEQA Guidelines Section 15126.4(b)(3)(C).

Table 7-1. Applicant Proposed Measures

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Number	Description
APM CUL-2	If during excavation or earth-moving activities the construction contractor identifies potential historic or archaeological resources, the county or local jurisdiction would be notified, and a professional archaeologist meeting the minimum qualifications in archaeology as set forth in the Secretary of the Interior's Standards and Guidelines would be contracted and dispatched to assess the nature and significance of the find in the following manner: • All excavation and grading within 10 feet of the discovery area would cease immediately. The responding archaeologist may, after analyzing the discovery, authorize an alternate buffer around the materials to ensure adequate evaluation and protection of potential historic and archaeological resource(s) during continued construction operations. • Additional evaluation of the historic and archaeological resource(s) would be conducted and significance of the materials determined. If the discovery is considered significant, the archaeologist would develop and implement a late-discovery mitigation strategy to minimize and avoid the impact, where appropriate.
APM CUL-3	If paleontological resources are discovered during earth-moving activities, the construction crew would immediately cease work near the find. In accordance with Society of Vertebrate Paleontology Guidelines, a qualified paleontologist would assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and mitigation.
APM CUL-4	If human remains are encountered, Health and Safety Code Section 7050.5 states that no further disturbance would occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The county coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the county coroner would notify the Native American Heritage Commission, which would determine and notify an MLD. With the permission of the landowner and his/her authorized representative, the MLD may inspect the site of the discovery. The MLD would complete the inspection within 48 hours of the notification by the Native American Heritage Commission. The MLD may make recommendations regarding the disposition of the remains.
APM CUL-5	Siskiyou Telephone and/or USFS would work with the Karuk Tribe to provide a tribal monitor to observe conditions during construction in specified areas of interest.
APM GEO-1	Project construction activities would be performed in accordance with the soil erosion and water quality protection measures to be specified in the SWPPP for the proposed project.
APM GEO-2	Project elements, such as excavating rock, or soil for utility box installation, building minor retaining walls (less than 5 feet in height) to avoid sedimentation into roadways, and trenching, would be designed and implemented in accordance with industry standards, including established engineering and construction practices and methods.
APM GHG-1	To the extent feasible, unnecessary construction vehicle and idling time would be minimized.
APM HAZ-1	Refueling of equipment would occur at a minimum distance of 20 feet from all active waterways.
APM HAZ-2	An SWPPP would be in place prior to the start of construction activities to implement BMPs for spill and pollution prevention. The following BMPs would minimize the potential for accidental release of hazardous materials: • Equipment would be maintained in good working order, and equipment containing hazardous materials would be inspected periodically for signs of spills or leakage. • Spills that occur would be cleaned up immediately, and any contaminated soil would be containerized and disposed of properly. • Spills that occur would be reported in accordance with applicable federal, state, and local requirements. • Emergency phone numbers would be available onsite.

Table 7-1. Applicant Proposed Measures

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Number	Description
APM HAZ-3	Siskiyou Telephone would develop a fire management plan, in accordance with the modified special use permit from USFS that addresses construction activities for this project. The fire management plan would establish standards and practices that would minimize the risk of fire danger and, in the case of fire, provide for immediate suppression and notification. The fire management plan would address spark arresters, smoking and fire rules, storage and parking areas, use of gasoline-powered tools, road closures, use of a fire guard, and fire suppression equipment and training requirements. In addition, a water truck would be located onsite (for fugitive dust emission control) and could be used for fire suppression if needed.
APM HYDRO-1	Disturbed areas would be restored to preproject conditions to avoid altering or increasing the rate or volume of surface runoff.
APM HYDRO-2	To comply with the LUP General Permit, Siskiyou Telephone would submit a Notice of Intent to the SWRCB and a Linear Construction Activity Notification to the RWQCB prior to construction. Siskiyou Telephone would also have the construction contractor prepare an SWPPP outlining BMPs for storm water erosion and sediment control, wind erosion control, source controls, and waste management. Siskiyou Telephone would ensure that SWPPP requirements are implemented and water quality standards are maintained. BMPs would be modified as necessary to ensure adequate erosion controls. The following are examples of BMPs: • Dry-season (April through October) construction to minimize erosion and storm water sediment transport • Use of silt fences or fiber rolls to prevent the migration of sediment offsite • Application of water to disturbed areas during work or windy conditions to prevent dust and erosion • Use of drip pans for mobile fueling
APM LU-1	Siskiyou Telephone would obtain permits to construct from USFS, Caltrans, and the CPUC.
APM NOI-1	During construction of the proposed project, the following BMPs would be implemented to minimize noise impacts: • Construction activity would be restricted to the hours between 7 a.m. and 7 p.m. on weekdays. Work on weekends would need to be coordinated with the Siskiyou County Planning Department as needed. • All stationary noise-generating equipment would be located as far as possible from nearby noise-sensitive receptors. • Construction equipment powered by gasoline or diesel engines would have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment would be permitted to have an unmuffled exhaust, as appropriate. • The construction contractor would ensure that noise-generating mobile equipment and machinery are turned off when not in use.
APM PS-1	Construction schedules would be submitted to local emergency service providers for review and comment, and updated as necessary. In addition, fire extinguishers and shovels would be maintained onsite during periods of construction or site activity for immediate fire control, if needed.
APM TRF-1	Siskiyou Telephone would obtain all appropriate encroachment permits and submit a traffic control plan to Siskiyou County and the Klamath National Forest to address emergency responder access and handling of local traffic. The traffic control plan would follow local and state requirements for traffic control, including use of flaggers and signage. The use of traffic control measures would ensure that the effects to traffic would not create unsafe conditions. In addition, Siskiyou Telephone would inform residents in Happy Camp of construction activities and potential delays.
APM UTL-1	Solid waste generated in the project area during construction is anticipated to be minimal and would be transported offsite daily to the Happy Camp disposal site.

SECTION 8

List of Preparers

Table 8-1. List of Preparers

Proponent's Environmental Assessment for Siskiyou Telephone Company Happy Camp to Somes Bar Fiber Connectivity Project Clear Creek to Ti Bar

Siskiyou Telephone P.O. Box 157 Etna, California 96027	
Name	**Affiliation**
Carl Eastlick	Siskiyou Telephone

CH2M HILL 2525 Airpark Drive Redding, California 96001		
Name	**Project Role**	**Years of Experience**
Heather Waldrop	Project Manager, Environmental Planner	16
Celeste Brandt	Technical Editor	17
Nancy Horrick	Document Publisher	13
Jacqueline Todak	Environmental Planner	1
Elizabeth Cutler	Senior Reviewer	27
Clint Helton	Senior Archaeologist	20
Gloriella Cardenas	Archaeologist	15
Daniel Weinberg	Senior Biologist	22
Danielle Tannourji	Biologist	13
Hong Zhuang	Environmental Engineer	20

Appendix A
Staking Sheets
(on compact disc)

Appendix B
Greenhouse Gas Emissions Charts

GHG Emissions Summary – by Construction Phase

Phase Name	Phase Start Date	Phase End Date	CO_2e (metric ton)
Phase 1	2017/04/15	2017/08/15	939.9
Phase 2-1	2017/08/16	2017/10/15	432.1
Phase 2-2	2018/04/18	2018/06/15	403.1
Phase 3	2018/06/16	2018/07/27	318.2
Total	2017/04/15	2018/07/27	**2,093.4**

GHG Emissions Summary – by Construction Year

Year	CO_2e (metric ton)
2017	1,372.1
2018	721.3
Total	**2,093.4**

Note:

GHG emissions were calculated using CalEEMod based on project-specific phases, equipment, and vehicle miles traveled.

Happy Camp to Somes Fiber Connectivity Project

Siskiyou County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	5.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	3			**Operational Year**	2018
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - site specific

Construction Phase - project specific

Off-road Equipment - project specific

Off-road Equipment - project specific

Off-road Equipment - project specific

Off-road Equipment - project specific

Trips and VMT - project specific

Grading - site specific

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	8.00	87.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	PhaseEndDate	12/1/2017	6/8/2018
tblConstructionPhase	PhaseEndDate	7/20/2018	7/27/2018
tblConstructionPhase	PhaseStartDate	10/11/2017	4/18/2018
tblConstructionPhase	PhaseStartDate	6/9/2018	6/16/2018
tblGrading	AcresOfGrading	21.50	5.00
tblGrading	AcresOfGrading	43.50	5.00
tblGrading	AcresOfGrading	21.50	5.00
tblGrading	AcresOfGrading	15.00	5.00
tblGrading	MaterialExported	0.00	2,000.00
tblGrading	MaterialExported	0.00	4,350.00
tblGrading	MaterialExported	0.00	1,900.00
tblGrading	MaterialExported	0.00	1,500.00
tblGrading	MaterialImported	0.00	2,760.00
tblGrading	MaterialImported	0.00	6,003.00
tblGrading	MaterialImported	0.00	2,622.00
tblGrading	MaterialImported	0.00	2,070.00
tblLandUse	LotAcreage	0.00	5.00

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	6.00
tblOffRoadEquipment	PhaseName		Phase 2-2
tblOffRoadEquipment	PhaseName		Phase 3
tblOffRoadEquipment	PhaseName		Phase 3
tblOffRoadEquipment	PhaseName		Phase 3
tblOffRoadEquipment	PhaseName		Phase 2-2
tblOffRoadEquipment	PhaseName		Phase 2-2
tblOffRoadEquipment	PhaseName		Phase 2-1
tblOffRoadEquipment	PhaseName		Phase 2-1
tblOffRoadEquipment	PhaseName		Phase 1
tblOffRoadEquipment	PhaseName		Phase 1
tblOffRoadEquipment	PhaseName		Phase 1
tblOffRoadEquipment	PhaseName		Phase 2-1
tblOffRoadEquipment	PhaseName		Phase 2-1
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,071.00
tblTripsAndVMT	HaulingTripNumber	0.00	492.00
tblTripsAndVMT	HaulingTripNumber	0.00	468.00
tblTripsAndVMT	HaulingTripNumber	0.00	369.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	MHDT
tblTripsAndVMT	WorkerTripLength	10.80	80.00
tblTripsAndVMT	WorkerTripLength	10.80	80.00
tblTripsAndVMT	WorkerTripLength	10.80	80.00
tblTripsAndVMT	WorkerTripLength	10.80	80.00
tblTripsAndVMT	WorkerTripNumber	53.00	30.00
tblTripsAndVMT	WorkerTripNumber	53.00	30.00
tblTripsAndVMT	WorkerTripNumber	53.00	30.00
tblTripsAndVMT	WorkerTripNumber	53.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.9746	10.4104	7.0190	0.0151	0.5656	0.4576	1.0232	0.2615	0.4210	0.6825	0.0000	1,364.9031	1,364.9031	0.3416	0.0000	1,372.08
2018	0.4552	4.7817	3.4978	8.0900e-003	0.3156	0.2064	0.5219	0.1459	0.1898	0.3358	0.0000	717.5091	717.5091	0.1823	0.0000	721.3373
Total	**1.4298**	**15.1921**	**10.5168**	**0.0232**	**0.8812**	**0.6640**	**1.5451**	**0.4074**	**0.6108**	**1.0183**	**0.0000**	**2,082.4122**	**2,082.4122**	**0.5239**	**0.0000**	**2,093.4145**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.9746	10.4104	7.0190	0.0151	0.5656	0.4576	1.0232	0.2615	0.4210	0.6825	0.0000	1,364.9018	1,364.9018	0.3416	0.0000	1,372.0759
2018	0.4552	4.7817	3.4978	8.0900e-003	0.3156	0.2064	0.5219	0.1459	0.1898	0.3358	0.0000	717.5085	717.5085	0.1823	0.0000	721.3366
Total	**1.4298**	**15.1921**	**10.5168**	**0.0232**	**0.8812**	**0.6640**	**1.5451**	**0.4074**	**0.6108**	**1.0183**	**0.0000**	**2,082.4103**	**2,082.4103**	**0.5239**	**0.0000**	**2,093.4125**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1	Grading	4/15/2017	8/15/2017	5	87	
2	Phase 2-1	Grading	8/16/2017	10/10/2017	5	40	
3	Phase 2-2	Grading	4/18/2018	6/8/2018	5	38	
4	Phase 3	Grading	6/16/2018	7/27/2018	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horsepower	Load Factor
Phase 2-1	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Phase 2-2	Bore/Drill Rigs	5	7.00	205	0.50
Phase 3	Bore/Drill Rigs	5	7.00	205	0.50
Phase 3	Other Construction Equipment	7	10.00	171	0.42
Phase 3	Off-Highway Trucks	6	8.00	400	0.38
Phase 3	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Phase 1	Bore/Drill Rigs	5	7.00	205	0.50
Phase 2-2	Other Construction Equipment	7	10.00	171	0.42
Phase 2-2	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Phase 2-2	Off-Highway Trucks	6	8.00	400	0.38
Phase 1	Other Construction Equipment	7	10.00	171	0.42
Phase 1	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Phase 2-1	Bore/Drill Rigs	5	7.00	205	0.50
Phase 1	Off-Highway Trucks	6	8.00	400	0.38
Phase 2-1	Other Construction Equipment	7	10.00	171	0.42
Phase 2-1	Off-Highway Trucks	6	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 3	21	30.00	15.00	369.00	80.00	40.00	40.00	LD_Mix	MHDT	HHDT
Phase 1	21	30.00	15.00	1,071.00	80.00	40.00	40.00	LD_Mix	MHDT	HHDT
Phase 2-1	21	30.00	15.00	492.00	80.00	40.00	40.00	LD_Mix	MHDT	HHDT
Phase 2-2	21	30.00	15.00	468.00	80.00	40.00	40.00	LD_Mix	MHDT	HHDT

3.1 Mitigation Measures Construction

No Mitigation measures were identified.

3.2 Phase 1 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2652	0.0000	0.2652	0.1444	0.0000	0.1444	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5888	6.6625	3.6668	8.0200e-003		0.3037	0.3037		0.2794	0.2794	0.0000	744.3749	744.3749	0.2281	0.0000	749.1645
Total	**0.5888**	**6.6625**	**3.6668**	**8.0200e-003**	**0.2652**	**0.3037**	**0.5689**	**0.1444**	**0.2794**	**0.4238**	**0.0000**	**744.3749**	**744.3749**	**0.2281**	**0.0000**	**749.1645**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0260	0.2078	0.2611	7.9000e-004	0.0180	4.0800e-003	0.0220	4.9500e-003	3.7500e-003	8.7000e-003	0.0000	70.8960	70.8960	4.9000e-004	0.0000	70.9064
Vendor	0.0224	0.1871	0.2250	5.5000e-004	0.0219	4.7700e-003	0.0266	6.2800e-003	4.3800e-003	0.0107	0.0000	48.4212	48.4212	3.7000e-004	0.0000	48.4290
Worker	0.0304	0.0742	0.6554	1.0000e-003	0.0753	8.9000e-004	0.0762	0.0200	8.1000e-004	0.0209	0.0000	71.3390	71.3390	5.0900e-003	0.0000	71.4458
Total	**0.0788**	**0.4691**	**1.1415**	**2.3400e-003**	**0.1151**	**9.7400e-003**	**0.1249**	**0.0313**	**8.9400e-003**	**0.0402**	**0.0000**	**190.6562**	**190.6562**	**5.9500e-003**	**0.0000**	**190.7811**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2652	0.0000	0.2652	0.1444	0.0000	0.1444	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5888	6.6625	3.6668	8.0200e-003		0.3037	0.3037		0.2794	0.2794	0.0000	744.3741	744.3741	0.2281	0.0000	749.1636
Total	**0.5888**	**6.6625**	**3.6668**	**8.0200e-003**	**0.2652**	**0.3037**	**0.5689**	**0.1444**	**0.2794**	**0.4238**	**0.0000**	**744.3741**	**744.3741**	**0.2281**	**0.0000**	**749.1636**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0260	0.2078	0.2611	7.9000e-004	0.0180	4.0800e-003	0.0220	4.9500e-003	3.7500e-003	8.7000e-003	0.0000	70.8960	70.8960	4.9000e-004	0.0000	70.9064
Vendor	0.0224	0.1871	0.2250	5.5000e-004	0.0219	4.7700e-003	0.0266	6.2800e-003	4.3800e-003	0.0107	0.0000	48.4212	48.4212	3.7000e-004	0.0000	48.4290
Worker	0.0304	0.0742	0.6554	1.0000e-003	0.0753	8.9000e-004	0.0762	0.0200	8.1000e-004	0.0209	0.0000	71.3390	71.3390	5.0900e-003	0.0000	71.4458
Total	**0.0788**	**0.4691**	**1.1415**	**2.3400e-003**	**0.1151**	**9.7400e-003**	**0.1249**	**0.0313**	**8.9400e-003**	**0.0402**	**0.0000**	**190.6562**	**190.6562**	**5.9500e-003**	**0.0000**	**190.7811**

3.3 Phase 2-1 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0715	0.0000	0.0715	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2707	3.0632	1.6859	3.6900e-003		0.1397	0.1397		0.1285	0.1285	0.0000	342.2414	342.2414	0.1049	0.0000	344.4435
Total	**0.2707**	**3.0632**	**1.6859**	**3.6900e-003**	**0.1324**	**0.1397**	**0.2721**	**0.0715**	**0.1285**	**0.2000**	**0.0000**	**342.2414**	**342.2414**	**0.1049**	**0.0000**	**344.4435**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0120	0.0955	0.1200	3.6000e-004	8.2500e-003	1.8700e-003	0.0101	2.2700e-003	1.7200e-003	4.0000e-003	0.0000	32.5685	32.5685	2.3000e-004	0.0000	32.5732
Vendor	0.0103	0.0860	0.1034	2.5000e-004	0.0100	2.1900e-003	0.0122	2.8900e-003	2.0200e-003	4.9000e-003	0.0000	22.2626	22.2626	1.7000e-004	0.0000	22.2662
Worker	0.0140	0.0341	0.3014	4.6000e-004	0.0346	4.1000e-004	0.0350	9.2200e-003	3.7000e-004	9.5900e-003	0.0000	32.7995	32.7995	2.3400e-003	0.0000	32.8486
Total	**0.0362**	**0.2156**	**0.5248**	**1.0700e-003**	**0.0529**	**4.4700e-003**	**0.0574**	**0.0144**	**4.1100e-003**	**0.0185**	**0.0000**	**87.6306**	**87.6306**	**2.7400e-003**	**0.0000**	**87.6881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0715	0.0000	0.0715	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2707	3.0632	1.6859	3.6900e-003		0.1397	0.1397		0.1285	0.1285	0.0000	342.2410	342.2410	0.1049	0.0000	344.4431
Total	**0.2707**	**3.0632**	**1.6859**	**3.6900e-003**	**0.1324**	**0.1397**	**0.2721**	**0.0715**	**0.1285**	**0.2000**	**0.0000**	**342.2410**	**342.2410**	**0.1049**	**0.0000**	**344.4431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0120	0.0955	0.1200	3.6000e-004	8.2500e-003	1.8700e-003	0.0101	2.2700e-003	1.7200e-003	4.0000e-003	0.0000	32.5685	32.5685	2.3000e-004	0.0000	32.5732
Vendor	0.0103	0.0860	0.1034	2.5000e-004	0.0100	2.1900e-003	0.0122	2.8900e-003	2.0200e-003	4.9000e-003	0.0000	22.2626	22.2626	1.7000e-004	0.0000	22.2662
Worker	0.0140	0.0341	0.3014	4.6000e-004	0.0346	4.1000e-004	0.0350	9.2200e-003	3.7000e-004	9.5900e-003	0.0000	32.7995	32.7995	2.3400e-003	0.0000	32.8486
Total	**0.0362**	**0.2156**	**0.5248**	**1.0700e-003**	**0.0529**	**4.4700e-003**	**0.0574**	**0.0144**	**4.1100e-003**	**0.0185**	**0.0000**	**87.6306**	**87.6306**	**2.7400e-003**	**0.0000**	**87.6881**

3.4 Phase 2-2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0715	0.0000	0.0715	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2250	2.4878	1.5194	3.5000e-003		0.1118	0.1118		0.1028	0.1028	0.0000	319.6930	319.6930	0.0995	0.0000	321.7830
Total	**0.2250**	**2.4878**	**1.5194**	**3.5000e-003**	**0.1324**	**0.1118**	**0.2442**	**0.0715**	**0.1028**	**0.1743**	**0.0000**	**319.6930**	**319.6930**	**0.0995**	**0.0000**	**321.7830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0108	0.0810	0.1108	3.4000e-004	7.8400e-003	1.6200e-003	9.4600e-003	2.1600e-003	1.4900e-003	3.6500e-003	0.0000	30.4565	30.4565	2.1000e-004	0.0000	30.4608
Vendor	7.7900e-003	0.0747	0.0776	2.4000e-004	9.5500e-003	1.5500e-003	0.0111	2.7500e-003	1.4200e-003	4.1700e-003	0.0000	20.8462	20.8462	1.3000e-004	0.0000	20.8489
Worker	0.0109	0.0286	0.2469	4.4000e-004	0.0329	3.6000e-004	0.0333	8.7500e-003	3.3000e-004	9.0900e-003	0.0000	29.9826	29.9826	2.0100e-003	0.0000	30.0248
Total	**0.0294**	**0.1844**	**0.4353**	**1.0200e-003**	**0.0503**	**3.5300e-003**	**0.0538**	**0.0137**	**3.2400e-003**	**0.0169**	**0.0000**	**81.2852**	**81.2852**	**2.3500e-003**	**0.0000**	**81.3345**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0715	0.0000	0.0715	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2250	2.4878	1.5194	3.5000e-003		0.1118	0.1118		0.1028	0.1028	0.0000	319.6926	319.6926	0.0995	0.0000	321.7826
Total	**0.2250**	**2.4878**	**1.5194**	**3.5000e-003**	**0.1324**	**0.1118**	**0.2442**	**0.0715**	**0.1028**	**0.1743**	**0.0000**	**319.6926**	**319.6926**	**0.0995**	**0.0000**	**321.7826**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0108	0.0810	0.1108	3.4000e-004	7.8400e-003	1.6200e-003	9.4600e-003	2.1600e-003	1.4900e-003	3.6500e-003	0.0000	30.4565	30.4565	2.1000e-004	0.0000	30.4608
Vendor	7.7900e-003	0.0747	0.0776	2.4000e-004	9.5500e-003	1.5500e-003	0.0111	2.7500e-003	1.4200e-003	4.1700e-003	0.0000	20.8462	20.8462	1.3000e-004	0.0000	20.8489
Worker	0.0109	0.0286	0.2469	4.4000e-004	0.0329	3.6000e-004	0.0333	8.7500e-003	3.3000e-004	9.0900e-003	0.0000	29.9826	29.9826	2.0100e-003	0.0000	30.0248
Total	**0.0294**	**0.1844**	**0.4353**	**1.0200e-003**	**0.0503**	**3.5300e-003**	**0.0538**	**0.0137**	**3.2400e-003**	**0.0169**	**0.0000**	**81.2852**	**81.2852**	**2.3500e-003**	**0.0000**	**81.3345**

3.5 Phase 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0932	0.0000	0.0932	0.0500	0.0000	0.0500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1776	1.9641	1.1995	2.7700e-003		0.0883	0.0883		0.0812	0.0812	0.0000	252.3892	252.3892	0.0786	0.0000	254.0392
Total	**0.1776**	**1.9641**	**1.1995**	**2.7700e-003**	**0.0932**	**0.0883**	**0.1814**	**0.0500**	**0.0812**	**0.1312**	**0.0000**	**252.3892**	**252.3892**	**0.0786**	**0.0000**	**254.0392**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.4900e-003	0.0639	0.0874	2.7000e-004	6.1900e-003	1.2800e-003	7.4600e-003	1.7000e-003	1.1700e-003	2.8800e-003	0.0000	24.0138	24.0138	1.6000e-004	0.0000	24.0172
Vendor	6.1500e-003	0.0590	0.0613	1.9000e-004	7.5400e-003	1.2200e-003	8.7600e-003	2.1700e-003	1.1200e-003	3.2900e-003	0.0000	16.4575	16.4575	1.0000e-004	0.0000	16.4596
Worker	8.5900e-003	0.0226	0.1949	3.4000e-004	0.0260	2.9000e-004	0.0263	6.9100e-003	2.6000e-004	7.1700e-003	0.0000	23.6705	23.6705	1.5900e-003	0.0000	23.7038
Total	**0.0232**	**0.1455**	**0.3436**	**8.0000e-004**	**0.0397**	**2.7900e-003**	**0.0425**	**0.0108**	**2.5500e-003**	**0.0133**	**0.0000**	**64.1417**	**64.1417**	**1.8500e-003**	**0.0000**	**64.1806**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0932	0.0000	0.0932	0.0500	0.0000	0.0500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1776	1.9641	1.1995	2.7700e-003		0.0883	0.0883		0.0812	0.0812	0.0000	252.3889	252.3889	0.0786	0.0000	254.0389
Total	**0.1776**	**1.9641**	**1.1995**	**2.7700e-003**	**0.0932**	**0.0883**	**0.1814**	**0.0500**	**0.0812**	**0.1312**	**0.0000**	**252.3889**	**252.3889**	**0.0786**	**0.0000**	**254.0389**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.4900e-003	0.0639	0.0874	2.7000e-004	6.1900e-003	1.2800e-003	7.4600e-003	1.7000e-003	1.1700e-003	2.8800e-003	0.0000	24.0138	24.0138	1.6000e-004	0.0000	24.0172
Vendor	6.1500e-003	0.0590	0.0613	1.9000e-004	7.5400e-003	1.2200e-003	8.7600e-003	2.1700e-003	1.1200e-003	3.2900e-003	0.0000	16.4575	16.4575	1.0000e-004	0.0000	16.4596
Worker	8.5900e-003	0.0226	0.1949	3.4000e-004	0.0260	2.9000e-004	0.0263	6.9100e-003	2.6000e-004	7.1700e-003	0.0000	23.6705	23.6705	1.5900e-003	0.0000	23.7038
Total	**0.0232**	**0.1455**	**0.3436**	**8.0000e-004**	**0.0397**	**2.7900e-003**	**0.0425**	**0.0108**	**2.5500e-003**	**0.0133**	**0.0000**	**64.1417**	**64.1417**	**1.8500e-003**	**0.0000**	**64.1806**

Appendix C
Siskiyou Telephone
Habitat Assessments

Habitat Assessment for the Siskiyou Telephone Clear Creek to Ukonom Mountain (Milepost 32.21 to 24.00) Telecommunications Project, Siskiyou County, California

PREPARED FOR: Carl Eastlick/Siskiyou Telephone

PREPARED BY: Daniel Weinberg/CH2M HILL

DATE: November 11, 2014

Introduction

Siskiyou Telephone proposes to upgrade telephone and broadband service to residences near Happy Camp in Siskiyou County, California, which is approximately 70 miles northwest of Yreka (see Figure 1). The Siskiyou Telephone Clear Creek to Ukonom Mountain (Milepost [MP] 32.21 to 24.00) Telecommunications Project (Project) consists of trenching and directional boring in and alongside Highway 96 in Siskiyou County between Clear Creek beginning near MP 32.21 and extending southwest approximately 42,888 feet (8.12 miles) to Ukonom Mountain near MP 24.00. The Project begins in T15N; R7E; Section 18 and follows Highway 96 into Sections 17, 20, 29, 30, and 31; T15N; R6E; Section 36; and T15N; R06E; Sections 01, 06, 11, and 12.

This technical memorandum summarizes a biological habitat assessment of the Project area conducted on June 24, 2014. This habitat assessment provides information to facilitate Project planning with the goal of minimizing potential impacts on special-status species. The habitat assessment includes a review of existing database records, and a reconnaissance field survey of the existing biological resources and habitat conditions within the Project area (see Photographs 1 through 4 at the end of this technical memorandum).

Project Description

The Project area is defined as the 10-foot-wide corridor following the cable alignment within the existing Highway 96 right-of-way (ROW) and road prism. The corridor would include the existing roadway and uphill slope portions of the roadway shoulder. If the upslope ROW is unavailable, the downslope ROW would be used. All construction operations would occur within the existing road prism now maintained by the California Department of Transportation (Caltrans).

Construction activities and resulting Project impacts would occur within the defined Project area. Project construction would require both trenching and directional boring. Trenching would only occur where the shoulder width can accommodate the operation without damaging the road surface or shoulder. In areas where the shoulder width is not adequate for trenching or in areas that include state-listed as threatened species or habitat, directional boring would be the preferred method of installation. Additionally, all conduits placed below a culvert would be installed with directional boring. Depths would be a minimum of 6 feet below the culvert invert.

Five minor stream crossings would occur: Douglas Creek, Brown's Creek, Allard Creek, Crawford Creek, and Wyman Creek. These streams would be crossed under the direct supervision and consent of California Department of Fish and Wildlife (CDFW), 1600 Stream Alteration Agreement. The stream crossings would be a minimum of 30 feet below the stream bed if water is present and 18 feet below the stream bed if dry. No standing trees would be removed or trimmed.

Construction laydown areas would be located along the Project alignment. These laydown areas would be used as staging areas for equipment and temporary holding storage for excavated materials. Spoils produced from directional boring and trenching that do not meet Caltrans specifications for backfill material

would be hauled offsite for disposal. Trenches would be backfilled with native materials only when approved by Caltrans; otherwise, Class II base rock would be used as backfill.

Construction activities would follow Caltrans best management practices, including the appropriate siltation controls, stormwater runoff controls, and other water quality protection measures. To avoid affecting U.S. Army Corps of Engineers jurisdictional waters of the United States (33 United States Code 1251 et seq. [1972]), conduits would be installed across streams and culverts. To control the spread of noxious weeds, to the extent practicable, excavated native material would be used to backfill the trench. Spoils from trenching and directional boring that do not meet Caltrans specifications for backfill material and are known to contain seed from noxious weeds would be hauled offsite to an established location previously used and/or approved by Caltrans. Vehicles and equipment would be cleaned before the Project starts to prevent the introduction and spread of noxious weed seed or roots.

Environmental Setting

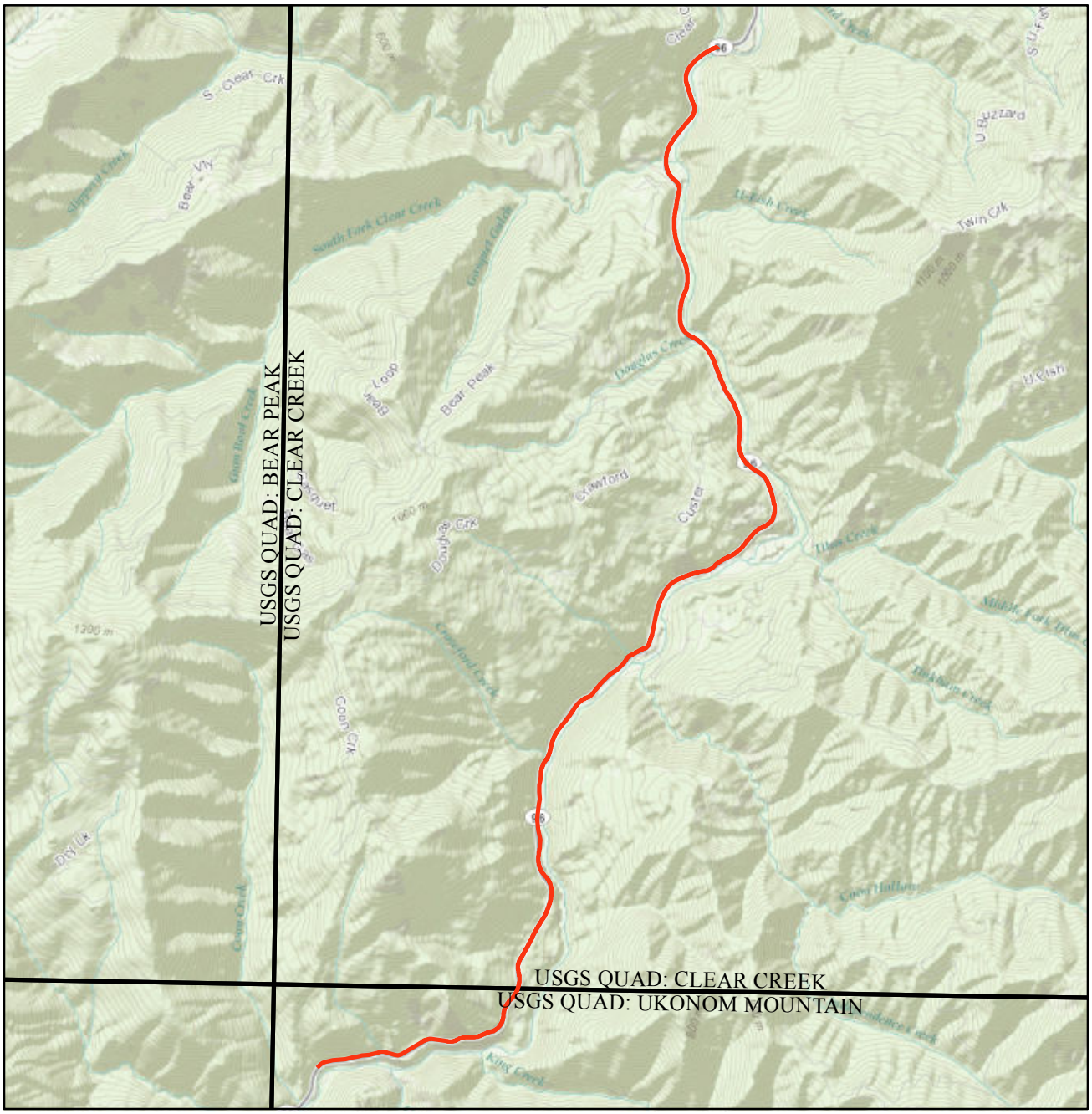
Caltrans maintains Highway 96 and the ROW. The U.S. Forest Service, Klamath National Forest, manages federal lands within the Project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping including grass lawns and exotic flowers.

The Klamath River is a major hydrologic feature of the region and parallels Highway 96 along the entire length of the Project area. The river provides important habitats for both terrestrial and aquatic species including the anadromous summer-run steelhead trout (*Oncorhynchus mykiss irideus*), Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and green sturgeon (*Acipenser medirostris*) (National Marine Fisheries Service, 2014).

Habitats upslope of the Klamath River and Project area are characterized by steep, south-facing slopes with coniferous overstories consisting primarily of Douglas fir (*Pseudotsuga menziesii*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*). Understories consist of mixed and scattered forbes, shrubs, and hardwood trees including western swordfern (*Polystichum munitum)*, western thimbleberry (*Rubus parviflorus*), huckleberry oak (*Quercus vaccinifolia*), Pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), and big leaf maple (*Acer macrophyllum*). The understory layer is more developed in the lower, wetter locations adjacent to creeks and springs that flow into the Klamath River.

These forested habitats support many special-status and common wildlife species. Table 1 lists special-status species potentially occurring within or near the Project area. The following list is a selection of common species that are supported by habitats within the range of the Project area:

- black bear (*Ursus americanus*)
- black-tailed deer (*Odocoileus hemionus*)
- coastal giant salamander (*Dicamptodon tenebrosus*)
- gray fox (*Urocyon cinereoargenteus*)
- great blue heron (*Ardea herodias*)
- hermit thrush (*Catharus guttatus*)
- long-eared myotis bat (*Myotis evotis*)
- Northern Pacific rattlesnake (*Crotalus oreganus oreganus*)
- osprey (*Pandion haliaetus*)
- spotted towhee (*Pipilo maculatus*)
- western fence lizard (*Sceloporus occidentalis*)
- western gray squirrel (*Sciurus griseus*)

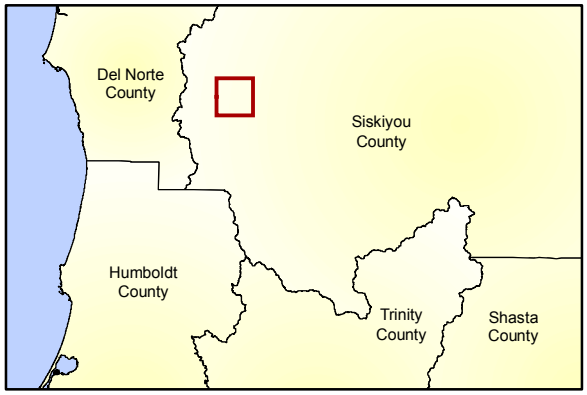


LEGEND

Project

USGS Quad (24K)

VICINITY MAP



N

0 12,000

Feet

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Figure 1
Clear Creek to Ukonom Mountain
SISKIYOU COUNTY, CALIFORNIA

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Franklin's bumblebee	*Bombus Franklini*	SSC	Builds hives in abandoned rodent burrows. Forages on flowering forbs and shrubs.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Mardon skipper butterfly	*Polites mardon*	FC	Fescue-dominated grasslands.	Not known for collections from forested areas of Siskiyou County. Fescue grasslands not observed from roadways. Not likely affected by construction activity.
steelhead – summer run Klamath Mountains Province	*Oncorhynchus mykiss*	SSC	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
coho salmon – Southern Oregon/Northern California coast	*Oncorhynchus kisutch*	FT	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
green sturgeon	*Acipenser medirostris*	FT	Broadcast spawns in large watercourses that reach the ocean, usually within 160 kilometers of the coast.	Known to occur in the Klamath River. Not likely affected by construction activity.
Cascade frog	*Rana cascadae*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Del Norte salamander	*Plethodon elongates*	SSC	Mossy rocks on shady, forested slopes.	Documented to occur in habitats beyond the road prism. Not likely affected by construction activity.
foothill yellow-legged frog	*Rana boylii*	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Observed adjacent to the roadway in Wyman Gulch at MP 24.44. Not likely affected by construction activity with appropriate monitoring.
northern red-legged frog	*Rana aurora*	SSC	Breeds in streams, freshwater pools, and ponds with overhanging vegetation. Typically aestivates underground in upland habitats near permanent waters.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
northwestern pond turtle	*Clemmys marmorata*	SSC	Aquatic turtle found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	Potential to occur in suitable habitat adjacent to the roadway. Appropriate breeding and foraging habitat in slow waters of the Klamath River. Not likely affected by construction activity.
Scott Bar salamander	*Plethodon asupak*	ST	Rocky talus slopes beneath canopy cover.	Project area is beyond documented range. Not likely affected by construction activity.
Siskiyou Mountains salamander	*Plethodon stormi*	ST	Rocky talus slopes beneath canopy cover.	Documented range is east of the Project area. Not likely affected by construction activity.
western tailed frog	*Ascaphus truei*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
American peregrine falcon	*Falco peregrinus anatum*	D, FP	Nests primarily on cliffs (occasionally constructed structures); forages in a variety of open habitats.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
bald eagle	*Haliaeetus leucocephalus*	D, SE, FP	Typically nests near large bodies of water or free-flowing rivers with abundant fish and adjacent snags and large trees. A known winter migrant.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
California yellow warbler	*Dendroica petechia brewsteri*	SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Cooper's hawk	*Accipiter cooperii*	SSC	Breeding resident throughout most of the forests and woodlands of California.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
loggerhead shrike	*Lanius ludovicianus*	SSC	Breeds in open habitats interspersed with shrubs and small trees.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
long-eared owl	*Asio otus*	SSC	Dense stands of riparian habitat near meadow edges.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
marbled murrelet	*Brachyramphus marmoratus*	FT	Dense stands of tall conifer near the Pacific Ocean.	Project area is potentially too far from the ocean. No documentation by the Klamath National Forest of marbled murrelet in the vicinity of the Project area. Not likely affected by construction activity.
merlin	*Falco columbarius*	SSC	Uses many habitats in winter and migration.	May occur as occasional visitor during migration and winter; does not breed in the region. Not likely affected by construction activity.
northern goshawk	*Accipiter gentilis*	ST	Dense stands of mature conifer forests.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
northern spotted owl	*Strix occidentalis caurina*	FT	Dense stands of mature conifer forests and woodlands.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
sharp-shinned hawk	*Accipiter striatus*	SSC	Dense wooded habitats including riparian deciduous and mixed conifer with north-facing slopes.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
western yellow-billed cuckoo	*Coccyzus americanus*	PT	Dense woodlands and thickets near streams.	Potential to occur in suitable habitat beyond the road prism. Not likely affected by construction activity.
American badger	*Taxidea taxus*	SSC	Known throughout California in multiple habitat types. Requires relatively open, uncultivated ground. Preys primarily on burrowing rodents such as gophers and ground squirrels.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Humboldt marten	*Martes Americana humboldtensis*	SSC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.
Pacific fisher	*Martes pennanti pacifica*	FC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open dry habitats with rocky areas for roosting.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
ringtail	*Bassiriscus astutus*	FP	Woodlands, forests, and chaparral. Usually near water.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
spotted bat	*Euderma maculatum*	SSC	Associated with prominent rock features. Roosts on rock-faced cliffs. Forages in open areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Throughout California in a wide variety of habitats. Known to roost in constructed structures such as buildings and mines.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
wolverine	*Gulo*	ST, FP	A variety of habitats in isolated areas.	Potential to occur in suitable habitat adjacent to the roadway. Considered uncommon in California, but known from nearby data records. Not likely affected by construction activity.
Applegate stonecrop	*Sedum oblanceolatum*	CNPS 1B	Rocky, upper montane.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
English peak greenbriar	*Smilax jamesii*	CNPS 1B	North coast coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Howell's tauschia	*Tauschia howellii*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Koehler's stipitate rock cress	*Arabis koeheri var. stipitata*	CNPS 1B	Lower montane coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Marble Mountain campion	*Silene marmorensis*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Parish's alumroot	*Heuchera parishii*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Shasta chaenactis	*Chaenactis suffrutescens*	CNPS 1B	Forested mountain areas, sand, or serpentinite soils.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Siskiyou fireweed	*Epilobium siskiyouense*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
white-flowered rein orchid	*Piperia candida*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

Status Codes:

CNPS 1B = plants rare, threatened, or endangered in California and elsewhere
D = delisted
FC = federal candidate
FP = state fully protected
FT = federally threatened
PT = proposed threatened
SE = state endangered
SSC = species of special concern
ST = state threatened

Several noxious weed species are within and adjacent to the Project area along the road shoulder of Highway 96. Existing traffic along with routine ROW maintenance activities (for example, mowing) may provide vectors for spread of noxious weed species. Common noxious weed species within the Caltrans road prism include yellow starthistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), Klamath weed (*Hypericum perforatum*), and Dyer's woad (*Isatis tinctoria*).

Methods

The assessment of potential Project impacts on special-status species and their habitats consisted of reviewing existing database records and performing a reconnaissance survey of the Project area and adjacent habitats (see Photograph 1). The following online databases were reviewed to develop a list of special-status species and habitats that might occur in or near the Project area:

- Klamath National Forest
- U.S. Fish and Wildlife Service
- California Native Plant Society
- CDFW California Natural Diversity Database
- Clear Creek and Ukonom Mountain U.S. Geological Survey 7.5-minute topographical quadrangles

A combination windshield/pedestrian survey was used to assess habitat at the proposed Project area along Highway 96. The survey included both the defined Project area within the ROW and upslope and downslope adjacent habitats. Typical auditory and visual techniques were used to observe and identify wildlife and potential habitat components.

Results and Discussion

The survey was conducted on June 24, 2014. The weather conditions were mild to warm with sunny skies and light winds. Special-status wildlife observed within the ROW or adjacent habitat during the field visit included nesting osprey (*Pandion haliaetus*) and foothill yellow-legged frog (*Rana boylii*).

Nesting birds are protected by the U.S. Migratory Bird Treaty Act; and birds of prey, regardless of nesting status, are protected by California Fish and Game Code 3503.5. The foothill yellow-legged frog is a California Species of Special Concern.

The active osprey nest was observed in a "broken top" Douglas fir tree, across the Klamath River, approximately 0.25 mile from the Project area at MP 29.09 near Brown's Creek (see Photograph 2). Due to this buffer distance, proposed Project activities would not disturb the osprey nest or osprey nesting territory. Three additional inactive osprey nests were observed at MP 30.18, MP 27.50, and MP 27.26.

The foothill yellow-legged frog was observed in a human-made concrete and stone drainage channel at Wyman Gulch at MP 24.44 (see Photographs 3 and 4). The proposed horizontal drill crossing beneath Wyman Creek (30 feet if wet, 18 feet if dry) is sufficient to protect aquatic habitat, and is unlikely to disturb foothill yellow-legged frog individuals with appropriate biological oversight during the activity.

No special-status plants were observed within the Project ROW. Additionally, no special-status plants were observed within the riparian habitat of any of the five creeks to be crossed. Creek crossings would occur below grade and would not require that trees be removed along existing and routinely maintained highway ROW with generally poor-quality habitat; therefore, the Project would have minimal potential to affect special-status plant species or their habitats.

In general, forested, riparian, and aquatic habitats within the Klamath River Basin support a variety of special-status wildlife species, including the following:

- American peregrine falcon (*Falco peregrinus anatum*) (state fully protected)
- Cascade frog (*Rana cascadae*) (state species of concern)
- coho salmon (*Oncorhynchus kisutch*) (federally threatened)
- Del Norte salamander (*Plethodon elongatus*) (state species of concern)
- foothill yellow-legged frog (*Rana boylii)* (state species of concern)
- green sturgeon (*Acipenser medirostris)* (federally threatened)
- Humboldt marten (*Martes Americana humboldtensis*) (state species of concern)
- marbled murrelet (*Brachyramphus marmoratus*) (federally threatened)
- northern goshawk (*Accipiter gentilis*) (state threatened)
- northern red-legged frog (*Rana aurora*) (state species of concern)
- northern spotted owl (*Strix occidentalis caurina*) (federally threatened)
- northwestern pond turtle (*Clemmys marmorata marmorata*) (state species of concern)
- Pacific fisher (*Martes pennanti pacifica*) (federal candidate species)
- Scott Bar salamander (*Plethodon asupak*) (state threatened)
- Siskiyou Mountains salamander (*Plethodon stormi*) (state threatened)
- western tailed frog (*Ascaphus truei*) (state species of concern)
- western yellow-billed cuckoo (*Coccyzus americanus*) (federal proposed threatened)
- wolverine (*Gulo gulo*) (state threatened and state fully protected)

A California Natural Diversity Database search indicates the Del Norte salamander has potential to occur near the Project area in suitable habitat (that is, loose rock rubble at the base of talus slopes). Moist, undisturbed rocky areas up or downslope from Highway 96 may provide suitable habitat for Del Norte salamander, but the specific road prism does not. The roadway consists of a compacted base layer that lacks interstitial spacing, required by salamanders for subsurface activity. No other special-status (terrestrial) wildlife species have been documented as observed within 0.5 mile of the proposed Project area footprint

(CDFW, 2014). Special-status fish species occurring in the Klamath River would not be affected by proposed construction activities.

Recommendations

The potential to affect the Del Norte salamander is low; however, to minimize risk of harming the salamander, work should be conducted during dry weather to reduce the potential of surface activity and movement. Additionally, during the Wyman Creek horizontal drill activity, it is recommended that the contractor set up and demobilize drilling equipment during dry weather to minimize potential foothill yellow-legged frog surface movements.

Although the overall risk of the Project in terms of spreading noxious weeds is low, the minimization measures listed below would reduce the spread of noxious weeds along the Project area. To the extent practicable, the introduction and spread of noxious weeds along the Project alignment would be minimized by applying the following best management practices:

- Construction access, and material laydown and staging would occur only on existing roads and previously disturbed sites.
- Only excavated onsite native materials would be used to backfill trenches.
- Spoils known to contain noxious weed propagules or that otherwise do not meet Caltrans backfill specifications would be removed to a Caltrans-approved disposal site.
- Project vehicles and equipment would be cleaned of weed propagules and seeds prior to the ground-disturbing activities.

Conclusion

Proposed construction activity by Siskiyou Telephone is not likely to affect any special-status wildlife or plant species or their habitat. Although the Klamath National Forest in general is known to provide suitable habitat for several special-status plant and wildlife species (see Table 1), the specific Project would occur within a previously disturbed road prism designed for high-speed vehicle traffic. The Project area consists almost exclusively of pavement and compacted fill materials. Additionally, with implementation of the aforementioned minimization recommendations, the potential to harm or disturb special-status species is low.

No aquatic habitats would be affected by proposed construction activities. The five minor water crossings would be accomplished by subgrade directional boring and would occur under the authority of CDFW.

References

Burt, W.H. and R.P. Grossenheider. 1976. *A Field Guide to the Mammals; North America North of Mexico*. Third edition. Peterson Field Guide Series. Boston, MA: Houghton Mifflin Company.

California Department of Fish and Wildlife (CDFW). 2014. California Natural Diversity Database Rarefind 5. Online data provided by the Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.

California Native Plant Society. 2014. Online species list. http://www.cnps.org/. Accessed June 20, 2014.

National Geographic Society. 1987. *Field Guide to the Birds of North America*. Second edition. Washington D.C.

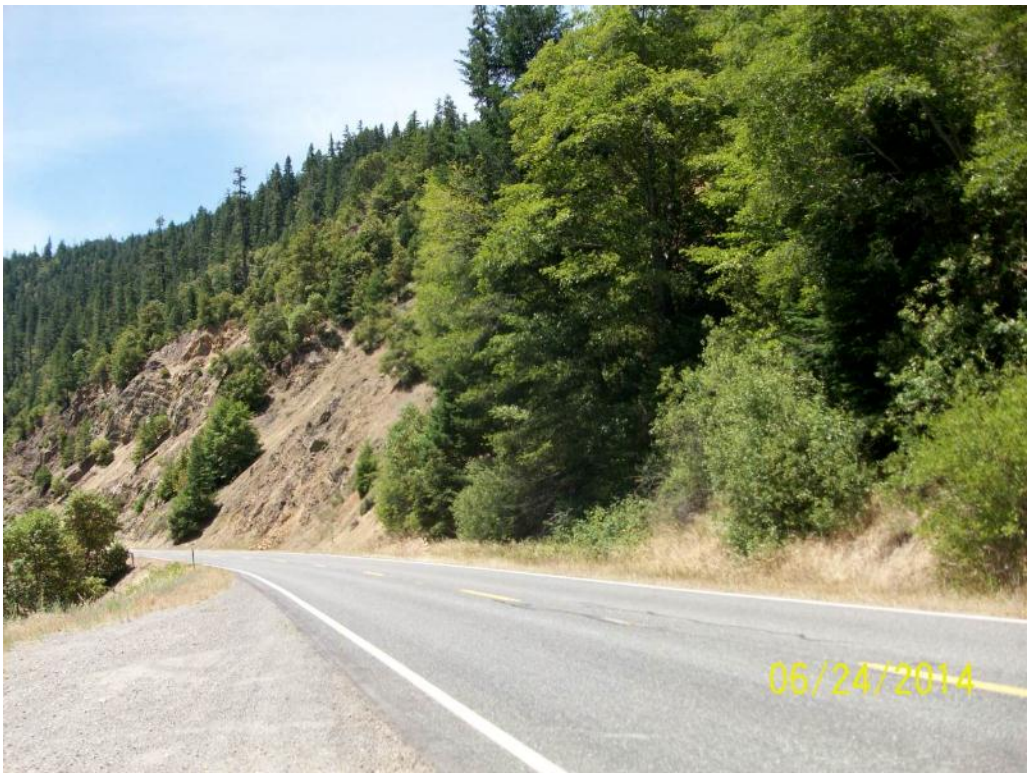
National Marine Fisheries Service. 2014. Online species information. http://swr.nmfs.noaa.gov/. Accessed June 20, 2014.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Boston, MA: Houghton Mifflin Company.

Thorp, R.W. 2005. "Species profile: *Bombus franklini*" in Shepherd et al. *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland OR: The Xerces Society for Invertebrate Conservation.

U.S. Fish and Wildlife Service. 2014. Online database. http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm. Accessed June 20, 2014.

Photographs



Photograph 1. Typical ROW habitat at approximately MP 28.00. No special-status plants were observed.

Photograph 2. Active osprey nest in "broken top" Douglas fir tree at approximate MP 29.09.

Photograph 3. Concrete and stone drainage channel at Wyman Gulch MP 24.44.

Photograph 4. Foothill yellow-legged frog observed in the Wyman Gulch concrete and stone drainage channel.

Habitat Assessment for the Siskiyou Telephone Ukonom Mountain to Somes Bar Exchange Boundary (Milepost 24.00 to 14.36) Telecommunications Project, Siskiyou County, California

PREPARED FOR: Carl Eastlick/Siskiyou Telephone

PREPARED BY: Daniel Weinberg/CH2M HILL

DATE: November 11, 2014

Introduction

Siskiyou Telephone proposes to upgrade telephone and broadband service to residences near Happy Camp in Siskiyou County, California, which is approximately 70 miles northwest of Yreka (see Figure 1). The Siskiyou Telephone Ukonom Mountain to Somes Bar Exchange Boundary (Milepost [MP] 24.00 to 14.36) Telecommunications Project (Project) consists of trenching and directional boring in and alongside Highway 96 in Siskiyou County between Ukonom Mountain beginning near MP 24.00 and extending southwest approximately 34,000 feet (6.43 miles) to Somes Bar Exchange Boundary near MP 14.36. The Project begins in T14N; R6E; Section 11 and continues into Sections 14, 15, 21, 22, 28, and 33.

This technical memorandum summarizes a biological habitat assessment of the Project area conducted on June 24, 2014. This habitat assessment provides information to facilitate Project planning with the goal of minimizing potential impacts on special-status species. The habitat assessment included a review of existing database records and a reconnaissance field survey of the existing biological resources and habitat conditions within the Project area (see Photographs 1 through 4 at the end of this technical memorandum).

Project Description

The Project area is defined as the 10-foot-wide corridor following the cable alignment within the existing Highway 96 right-of-way (ROW) and road prism. The corridor would include the existing roadway and uphill slope portions of the roadway shoulder. If the upslope ROW is unavailable, the downslope ROW would be used. All construction operations would occur within the existing road prism now maintained by the California Department of Transportation (Caltrans).

Construction activities and resulting Project impacts would occur within the defined Project area. Project construction would require both trenching and directional boring. Trenching would only occur where the shoulder width can accommodate the operation without damaging the road surface or shoulder. In areas where the shoulder width is not adequate for trenching or in areas that include state-listed threatened species or habitat, directional boring would be the preferred method of installation. Additionally, all conduits placed below a culvert would be installed with directional boring. Depths would be a minimum of 6 feet below the culvert invert. The Project would cross the Klamath River in one location, and cables would be attached to existing structure. The Project would also cross two minor streams (Dillon Creek and Swillup Creek) by attaching cables to the existing structure.

Four minor stream crossings would occur: Coon Creek, Elliot Creek, Aubrey Creek, and Three Creeks. These streams would be crossed under the direct supervision and consent of California Department of Fish and Wildlife (CDFW), 1600 Stream Alteration Agreement. The stream crossings would be a minimum of 30 feet below the stream bed if water is present and 18 feet below the stream bed if dry. No standing trees would be removed or trimmed.

Construction laydown areas would be located along the Project alignment. These laydown areas would be used as staging areas for equipment and temporary holding storage for excavated materials. Spoils produced from directional boring and trenching that do not meet Caltrans specifications for backfill material would be hauled offsite for disposal. Trenches would be backfilled with native materials only when approved by Caltrans; otherwise, Class II base rock would be used as backfill.

Construction activities would follow Caltrans best management practices, including the appropriate siltation controls, stormwater runoff controls, and other water quality protection measures. To avoid affecting U.S. Army Corps of Engineers jurisdictional waters of the United States (33 United States Code 1251 et seq. [1972]), conduits would be installed across streams and culverts. To control the spread of noxious weeds, to the extent practicable, excavated native material would be used to backfill the trench. Spoils from trenching and directional boring that do not meet Caltrans specifications for backfill material and are known to contain seed from noxious weeds would be hauled offsite to an established location previously used and/or approved by Caltrans. Vehicles and equipment would be cleaned before the Project starts to prevent the introduction and spread of noxious weed seed or roots.

Environmental Setting

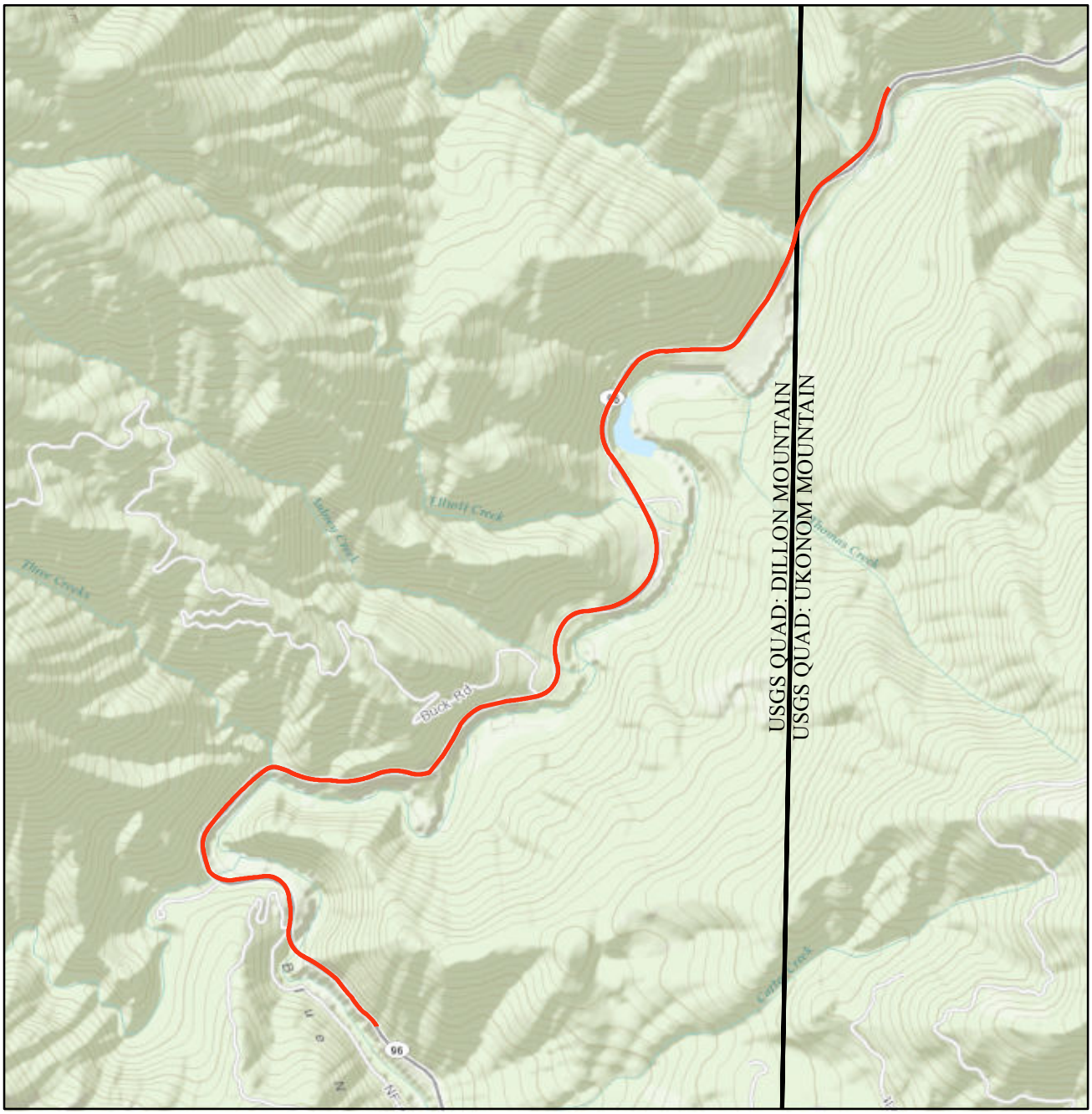
Caltrans maintains Highway 96 and the ROW. The U.S. Forest Service, Klamath National Forest, manages federal lands within the Project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping including grass lawns and exotic flowers.

The Klamath River is a major hydrologic feature of the region and parallels Highway 96 along the entire length of the Project area. The river provides important habitats for both terrestrial and aquatic species including the anadromous summer-run steelhead trout (*Oncorhynchus mykiss irideus*), Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and green sturgeon (*Acipenser medirostris*) (National Marine Fisheries Service, 2014).

Habitats upslope of the Klamath River and Project area are characterized by steep, south-facing slopes with coniferous overstories consisting primarily of Douglas fir (*Pseudotsuga menziesii*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*). Understories consist of mixed and scattered forbes, shrubs, and hardwood trees including western swordfern (*Polystichum munitum)*, western thimbleberry (*Rubus parviflorus*), huckleberry oak (*Quercus vaccinifolia*), Pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), and big leaf maple (*Acer macrophyllum*). The understory layer is more developed in the lower, wetter locations adjacent to creeks and springs that flow into the Klamath River.

These forested habitats support many special-status and common wildlife species. Table 1 lists special-status species potentially occurring within or near the Project area. The following list is a selection of common species that are supported by habitats within the range of the Project area:

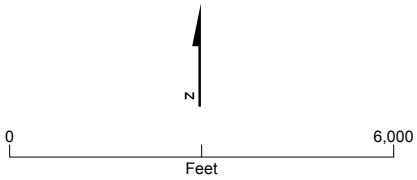
- black bear (*Ursus americanus*)
- black-tailed deer (*Odocoileus hemionus*)
- coastal giant salamander (*Dicamptodon tenebrosus*)
- gray fox (*Urocyon cinereoargenteus*)
- great blue heron (*Ardea herodias*)
- hermit thrush (*Catharus guttatus*)
- long-eared myotis bat (*Myotis evotis*)
- Northern Pacific rattlesnake (*Crotalus oreganus oreganus*)
- osprey (*Pandion haliaetus*)
- spotted towhee (*Pipilo maculatus*)
- western fence lizard (*Sceloporus occidentalis*)
- western gray squirrel (*Sciurus griseus*)



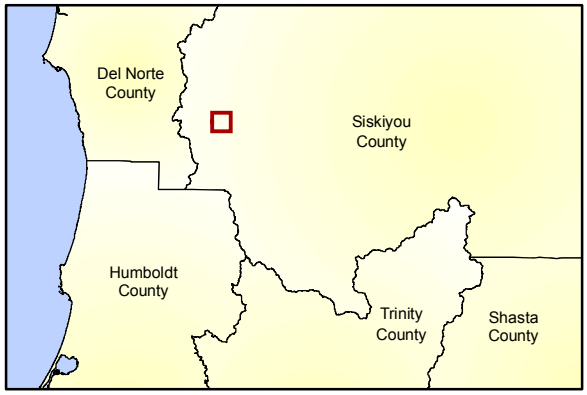
LEGEND

Project

USGS Quad (24K)



VICINITY MAP



Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Figure 1
Exchange Area to Somes Bar
SISKIYOU COUNTY, CALIFORNIA

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Franklin's bumblebee	*Bombus Franklini*	SSC	Builds hives in abandoned rodent burrows. Forages on flowering forbs and shrubs.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Mardon skipper butterfly	*Polites mardon*	FC	Fescue-dominated grasslands.	Not known for collections from forested areas of Siskiyou County. Fescue grasslands not observed from roadways. Not likely affected by construction activity.
steelhead – summer run Klamath Mountains Province	*Oncorhynchus mykiss*	SSC	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
coho salmon – Southern Oregon/Northern California coast	*Oncorhynchus kisutch*	FT	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
green sturgeon	*Acipenser medirostris*	FT	Broadcast spawns in large watercourses that reach the ocean, usually within 160 kilometers of the coast.	Known to occur in the Klamath River. Not likely affected by construction activity.
Cascade frog	*Rana cascadae*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Del Norte salamander	*Plethodon elongates*	SSC	Mossy rocks on shady, forested slopes.	Documented to occur in habitats beyond the road prism. Not likely affected by construction activity.
foothill yellow-legged frog	*Rana boylii*	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Observed adjacent to the roadway in Wyman Gulch at MP 24.44. Not likely affected by construction activity with appropriate monitoring.
northern red-legged frog	*Rana aurora*	SSC	Breeds in streams, freshwater pools, and ponds with overhanging vegetation. Typically aestivates underground in upland habitats near permanent waters.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
northwestern pond turtle	*Clemmys marmorata*	SSC	Aquatic turtle found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	Potential to occur in suitable habitat adjacent to the roadway. Appropriate breeding and foraging habitat in slow waters of the Klamath River. Not likely affected by construction activity.
Scott Bar salamander	*Plethodon asupak*	ST	Rocky talus slopes beneath canopy cover.	Project area is beyond documented range. Not likely affected by construction activity.
Siskiyou Mountains salamander	*Plethodon stormi*	ST	Rocky talus slopes beneath canopy cover.	Documented range is east of the Project area. Not likely affected by construction activity.
western tailed frog	*Ascaphus truei*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
American peregrine falcon	*Falco peregrinus anatum*	D, FP	Nests primarily on cliffs (occasionally constructed structures); forages in a variety of open habitats.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
bald eagle	*Haliaeetus leucocephalus*	D, SE, FP	Typically nests near large bodies of water or free-flowing rivers with abundant fish and adjacent snags and large trees. A known winter migrant.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
California yellow warbler	*Dendroica petechia brewsteri*	SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Cooper's hawk	*Accipiter cooperii*	SSC	Breeding resident throughout most of the forests and woodlands of California.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
loggerhead shrike	*Lanius ludovicianus*	SSC	Breeds in open habitats interspersed with shrubs and small trees.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
long-eared owl	*Asio otus*	SSC	Dense stands of riparian habitat near meadow edges.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
marbled murrelet	*Brachyramphus marmoratus*	FT	Dense stands of tall conifer near the Pacific Ocean.	Project area is potentially too far from the ocean. No documentation by the Klamath National Forest of marbled murrelet in the vicinity of the Project area. Not likely affected by construction activity.
merlin	*Falco columbarius*	SSC	Uses many habitats in winter and migration.	May occur as occasional visitor during migration and winter; does not breed in the region. Not likely affected by construction activity.
northern goshawk	*Accipiter gentilis*	ST	Dense stands of mature conifer forests.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
northern spotted owl	*Strix occidentalis caurina*	FT	Dense stands of mature conifer forests and woodlands.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
sharp-shinned hawk	*Accipiter striatus*	SSC	Dense wooded habitats including riparian deciduous and mixed conifer with north-facing slopes.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
western yellow-billed cuckoo	*Coccyzus americanus*	PT	Dense woodlands and thickets near streams.	Potential to occur in suitable habitat beyond the road prism. Not likely affected by construction activity.
American badger	*Taxidea taxus*	SSC	Known throughout California in multiple habitat types. Requires relatively open, uncultivated ground. Preys primarily on burrowing rodents such as gophers and ground squirrels.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Humboldt marten	*Martes Americana humboldtensis*	SSC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.
Pacific fisher	*Martes pennanti pacifica*	FC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open dry habitats with rocky areas for roosting.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
ringtail	*Bassiriscus astutus*	FP	Woodlands, forests, and chaparral. Usually near water.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
spotted bat	*Euderma maculatum*	SSC	Associated with prominent rock features. Roosts on rock-faced cliffs. Forages in open areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Throughout California in a wide variety of habitats. Known to roost in constructed structures such as buildings and mines.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
wolverine	*Gulo*	ST, FP	A variety of habitats in isolated areas.	Potential to occur in suitable habitat adjacent to the roadway. Considered uncommon in California, but known from nearby data records. Not likely affected by construction activity.
Applegate stonecrop	*Sedum oblanceolatum*	CNPS 1B	Rocky, upper montane.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
English peak greenbriar	*Smilax jamesii*	CNPS 1B	North coast coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Howell's tauschia	*Tauschia howellii*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Koehler's stipitate rock cress	*Arabis koeheri var. stipitata*	CNPS 1B	Lower montane coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Marble Mountain campion	*Silene marmorensis*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Parish's alumroot	*Heuchera parishii*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Shasta chaenactis	*Chaenactis suffrutescens*	CNPS 1B	Forested mountain areas, sand, or serpentinite soils.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Siskiyou fireweed	*Epilobium siskiyouense*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
white-flowered rein orchid	*Piperia candida*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

Status Codes:

CNPS 1B = plants rare, threatened, or endangered in California and elsewhere
D = delisted
FC = federal candidate
FP = state fully protected
FT = federally threatened
PT = proposed threatened
SE = state endangered
SSC = species of special concern
ST = state threatened

Several noxious weed species are within and adjacent to the Project area along the road shoulder of Highway 96. Existing traffic along with routine ROW maintenance activities (for example, mowing) may provide vectors for spread of noxious weed species. Common noxious weed species within the Caltrans road prism include yellow starthistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), Klamath weed (*Hypericum perforatum*), and Dyer's woad (*Isatis tinctoria*).

Methods

The assessment of potential Project impacts on special-status species and their habitats consisted of reviewing existing database records and performing a reconnaissance survey of the Project area and adjacent habitats (see Photograph 1). The following online databases were reviewed to develop a list of special-status species and habitats that might occur in or near the Project area:

- Klamath National Forest
- U.S. Fish and Wildlife Service
- California Native Plant Society
- CDFW California Natural Diversity Database
- Ukonom Mountain and Dillon Mountain U.S. Geological Survey 7.5-minute topographical quadrangles

A combination windshield/pedestrian survey was used to assess habitat at the proposed Project area along Highway 96. The survey included both the defined Project area within the ROW and upslope and downslope adjacent habitats. Typical auditory and visual techniques were used to observe and identify wildlife and potential habitat components.

Results and Discussion

The survey was conducted on June 24, 2014. The weather conditions were mild to warm with sunny skies and light winds. Special-status wildlife observed within the ROW or adjacent habitat during the field visit included nesting osprey (*Pandion haliaetus*). Nesting birds are protected by the U.S. Migratory Bird Treaty Act; and birds of prey, regardless of nesting status, are protected in California by Fish and Game Code 3503.5.

The active osprey nest is located in a leaning, "broken top" conifer tree, approximately 0.25 mile upslope from the Project area at MP 20.64 (see Photograph 2). An adult osprey was observed sitting in the nest, and another adult was observed simultaneously soaring overhead. An additional inactive osprey nest was observed at MP 20.16. Due to the buffer distance and the natural screening provided by the trees above Highway 96, proposed Project activities would not disturb the osprey nests or osprey nesting territory.

No special-status plants were observed within the Project ROW. Additionally, no special-status plants were observed within the riparian habitat of any of the four creeks to be crossed. Creek crossings would occur below grade and would not require that trees be removed along existing and routinely maintained highway ROW with generally poor-quality habitat; therefore, the Project would have minimal potential to affect special-status plant species or their habitats.

In general, forested, riparian, and aquatic habitats within the Klamath River Basin support a variety of special-status wildlife species, including the following:

- American peregrine falcon (*Falco peregrinus anatum*) (state fully protected)
- Cascade frog (*Rana cascadae*) (state species of concern)
- coho salmon (*Oncorhynchus kisutch*) (federally threatened)
- Del Norte salamander (*Plethodon elongatus*) (state species of concern)
- foothill yellow-legged frog (*Rana boylii)* (state species of concern)
- green sturgeon (*Acipenser medirostris)* (federally threatened)
- Humboldt marten (*Martes Americana humboldtensis*) (state species of concern)
- marbled murrelet (*Brachyramphus marmoratus*) (federally threatened)
- northern goshawk (*Accipiter gentilis*) (state threatened)
- northern red-legged frog (*Rana aurora*) (state species of concern)
- northern spotted owl (*Strix occidentalis caurina*) (federally threatened)
- northwestern pond turtle (*Clemmys marmorata marmorata*) (state species of concern)
- Pacific fisher (*Martes pennanti pacifica*) (federal candidate species)
- Scott Bar salamander (*Plethodon asupak*) (state threatened)
- Siskiyou Mountains salamander (*Plethodon stormi*) (state threatened)
- western tailed frog (*Ascaphus truei*) (state species of concern)
- western yellow-billed cuckoo (*Coccyzus americanus*) (federal proposed threatened)
- wolverine (*Gulo gulo*) (state threatened and state fully protected)

A California Natural Diversity Database search indicates the Del Norte salamander has potential to occur near the Project area in suitable habitat (that is, loose rock rubble at the base of talus slopes). Moist, undisturbed rocky areas up or downslope from Highway 96 may provide suitable habitat for Del Norte salamander, but the specific road prism does not. The roadway consists of a compacted base layer that lacks interstitial spacing, required by salamanders for subsurface activity. No other special-status (terrestrial) wildlife species have been documented as observed within 0.5 mile of the proposed Project area footprint (CDFW, 2014). Special-status fish species occurring in the Klamath River would not be affected by proposed construction activities.

Recommendations

The potential to affect the Del Norte salamander is low; however, to minimize risk of harming the salamander, work should be conducted during dry weather to reduce the potential of surface activity and movement.

Although the overall risk of the Project in terms of spreading noxious weeds is low, the minimization measures listed below would reduce the spread of noxious weeds along the Project area. To the extent practicable, the introduction and spread of noxious weeds along the Project alignment would be minimized by applying the following best management practices:

- Construction access, and material laydown and staging would occur only on existing roads and previously disturbed sites.
- Only excavated onsite native materials would be used to backfill trenches.
- Spoils known to contain noxious weed propagules or that otherwise do not meet Caltrans backfill specifications would be removed to a Caltrans-approved disposal site.
- Project vehicles and equipment would be cleaned of weed propagules and seeds prior to the ground-disturbing activities.

Conclusion

Proposed construction activity by Siskiyou Telephone is not likely to affect any special-status wildlife or plant species or their habitat. Although the Klamath National Forest in general is known to provide suitable habitat for several special-status plant and wildlife species (see Table 1), the specific Project would occur within a previously disturbed road prism designed for high-speed vehicle traffic. The Project area consists almost exclusively of pavement and compacted fill materials. Additionally, with implementation of the aforementioned minimization recommendations, the potential to harm or disturb special-status species is low.

No aquatic habitats would be affected by proposed construction activities. The four minor water crossings would be accomplished by subgrade directional boring and would occur under the authority of CDFW.

References

Burt, W.H. and R.P. Grossenheider. 1976. *A Field Guide to the Mammals; North America North of Mexico*. Third edition. Peterson Field Guide Series. Boston, MA: Houghton Mifflin Company.

California Department of Fish and Wildlife (CDFW). 2014. California Natural Diversity Database Rarefind 5. Online data provided by the Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.

California Native Plant Society. 2014. Online species list. http://www.cnps.org/. Accessed June 20, 2014.

National Geographic Society. 1987. *Field Guide to the Birds of North America*. Second edition. Washington D.C.

National Marine Fisheries Service. 2014. Online species information. http://swr.nmfs.noaa.gov/. Accessed June 20, 2014.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Boston, MA: Houghton Mifflin Company.

Thorp, R.W. 2005. "Species profile: *Bombus franklini*" in Shepherd et al. *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland OR: The Xerces Society for Invertebrate Conservation.

U.S. Fish and Wildlife Service. 2014. Online database. http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm. Accessed June 20, 2014.

Photographs

Photograph 1. No amphibians were observed at a stand pipe drain at MP 22.17.

Photograph 2. Typical ROW habitat at MP 20.64. No special-status plants were observed.

Photograph 3. Active osprey nest upslope from the Project area at MP 20.64. Adult was observed incubating.

Photograph 4. Dillon Creek Bridge. Cables would be attached to the bottom of the structure to avoid disturbance to the creek.

Habitat Assessment for the Siskiyou Telephone T-Bar to Exchange Area Boundary (Milepost 12.15 to 14.36) Telecommunications Project, Siskiyou County, California

PREPARED FOR: Carl Eastlick/Siskiyou Telephone

PREPARED BY: Daniel Weinberg/CH2M HILL

DATE: November 11, 2014

Introduction

Siskiyou Telephone proposes to upgrade telephone and broadband service to residences near Happy Camp in Siskiyou County, California, which is approximately 70 miles northwest of Yreka (see Figure 1). The Siskiyou Telephone T-Bar Exchange Area Boundary (Milepost [MP] 12.15 to 14.36) Telecommunications Project (Project) consists of trenching and directional boring in and alongside Highway 96 in Humboldt County between T-Bar beginning near MP 12.15 and extending southwest approximately 11,616 feet (2.2 miles) to Exchange Area Boundary near MP 14.36. The Project is within T13N; R6E; Sections 8 and 5.

This technical memorandum summarizes a biological habitat assessment of the Project area conducted on June 24, 2014. This habitat assessment provides information to facilitate Project planning with the goal of minimizing potential impacts on special-status species. The habitat assessment included a review of existing database records and a reconnaissance field survey of the existing biological resources and habitat conditions within the Project area (see Photographs 1 through 2 at the end of this technical memorandum).

Project Description

The Project area is defined as the 10-foot-wide corridor following the cable alignment within the existing Highway 96 right-of-way (ROW) and road prism. The corridor would include the existing roadway and uphill slope portions of the roadway shoulder. If the upslope ROW is unavailable, the downslope ROW would be used. All construction operations would occur within the existing road prism now maintained by the California Department of Transportation (Caltrans).

Construction activities and resulting Project impacts would occur within the defined Project area. Project construction would require both trenching and directional boring. Trenching would only occur where the shoulder width can accommodate the operation without damaging the road surface or shoulder. In areas where the shoulder width is not adequate for trenching or in areas that include state-listed threatened species or habitat, directional boring would be the preferred method of installation. Additionally, all conduits placed below a culvert would be installed with directional boring. Depths would be a minimum of 6 feet below the culvert invert. No standing trees would be removed or trimmed.

Construction laydown areas would be located along the Project alignment. These laydown areas would be used as staging areas for equipment and temporary holding storage for excavated materials. Spoils produced from directional boring and trenching that do not meet Caltrans specifications for backfill material would be hauled offsite for disposal. Trenches would be backfilled with native materials only when approved by Caltrans; otherwise, Class II base rock would be used as backfill.

Construction activities would follow Caltrans best management practices, including the appropriate siltation controls, stormwater runoff controls, and other water quality protection measures. To avoid affecting U.S. Army Corps of Engineers jurisdictional waters of the United States (33 United States Code 1251 et seq. [1972]), conduits would be installed across streams and culverts. To control the spread of noxious weeds, to the extent practicable, excavated native material would be used to backfill the trench. Spoils from trenching

and directional boring that do not meet Caltrans specifications for backfill material and are known to contain seed from noxious weeds would be hauled offsite to an established location previously used and/or approved by Caltrans. Vehicles and equipment would be cleaned before the Project starts to prevent the introduction and spread of noxious weed seed or roots.

Environmental Setting

Caltrans maintains Highway 96 and the ROW. The U.S. Forest Service, Klamath National Forest, manages federal lands within the Project area as General Forest for activities including timber harvest, recreation, and mining. Private parcels adjacent to the roadway are generally developed and feature ornamental landscaping including grass lawns and exotic flowers.

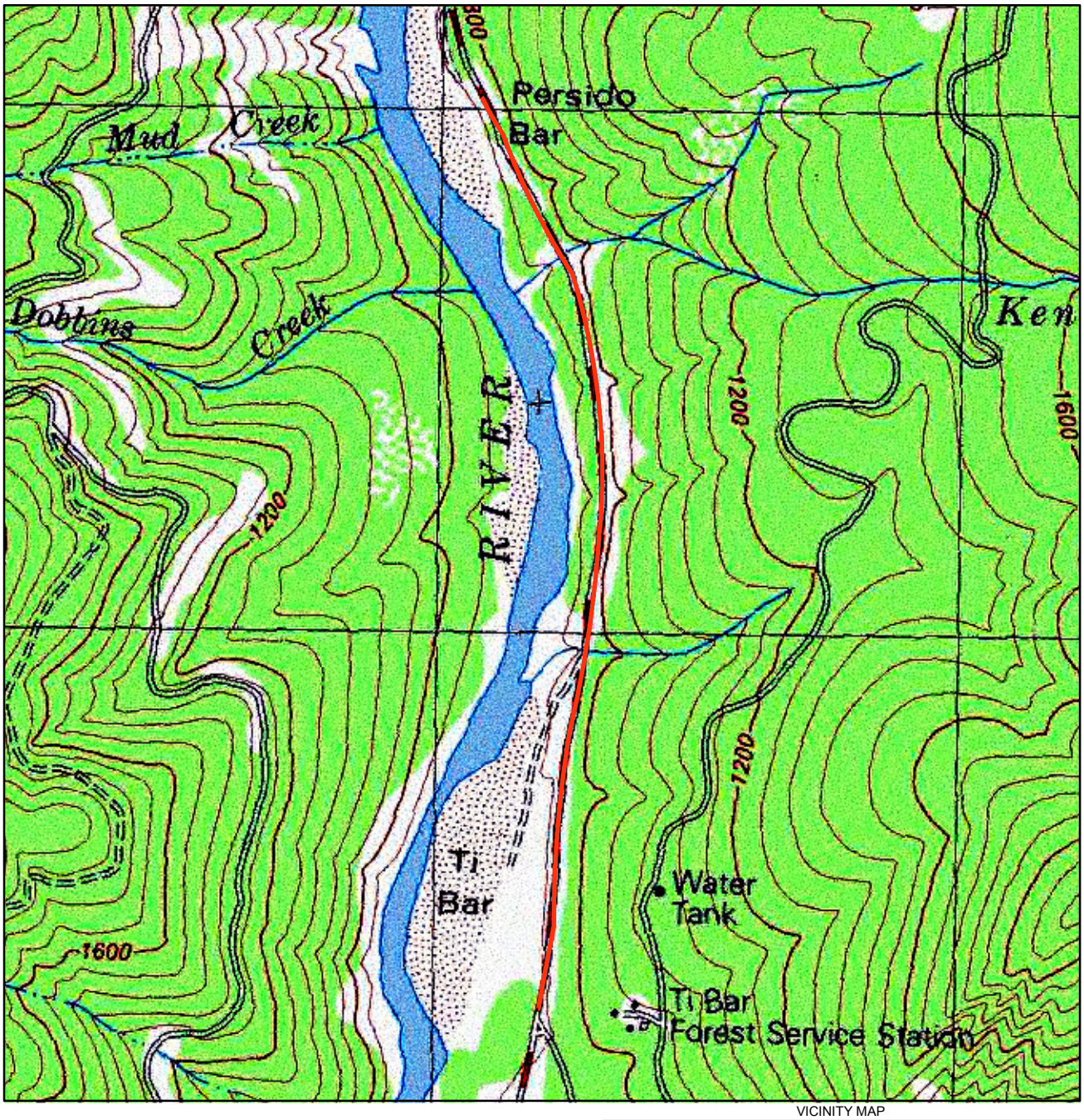
The Klamath River is a major hydrologic feature of the region and parallels Highway 96 along the entire length of the Project area. The river provides important habitats for both terrestrial and aquatic species including the anadromous summer-run steelhead trout (*Oncorhynchus mykiss irideus*), Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and green sturgeon (*Acipenser medirostris*) (National Marine Fisheries Service, 2014).

Habitats upslope of the Klamath River and Project area are characterized by steep, south-facing slopes with coniferous overstories consisting primarily of Douglas fir (*Pseudotsuga menziesii*), sugar pine (*Pinus lambertiana*), and white fir (*Abies concolor*). Understories consist of mixed and scattered forbes, shrubs, and hardwood trees including western swordfern (*Polystichum munitum)*, western thimbleberry (*Rubus parviflorus*), huckleberry oak (*Quercus vaccinifolia*), Pacific madrone (*Arbutus menziesii*), tanoak (*Lithocarpus densiflorus*), and big leaf maple (*Acer macrophyllum*). The understory layer is more developed in the lower, wetter locations adjacent to creeks and springs that flow into the Klamath River.

These forested habitats support many special-status and common wildlife species. Table 1 lists special-status species potentially occurring within or near the Project area. The following list is a selection of common species that are supported by habitats within the range of the Project area:

- black bear (*Ursus americanus*)
- black-tailed deer (*Odocoileus hemionus*)
- coastal giant salamander (*Dicamptodon tenebrosus*)
- gray fox (*Urocyon cinereoargenteus*)
- great blue heron (*Ardea herodias*)
- hermit thrush (*Catharus guttatus*)
- long-eared myotis bat (*Myotis evotis*)
- Northern Pacific rattlesnake (*Crotalus oreganus oreganus*)
- osprey (*Pandion haliaetus*)
- spotted towhee (*Pipilo maculatus*)
- western fence lizard (*Sceloporus occidentalis*)
- western gray squirrel (*Sciurus griseus*)

Several noxious weed species are within and adjacent to the Project area along the road shoulder of Highway 96. Existing traffic along with routine ROW maintenance activities (for example, mowing) may provide vectors for spread of noxious weed species. Common noxious weed species within the Caltrans road prism include yellow starthistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), Klamath weed (*Hypericum perforatum*), and Dyer's woad (*Isatis tinctoria*).



LEGEND

Project

USGS Quad (24K)

N

0 2,000

Feet

VICINITY MAP

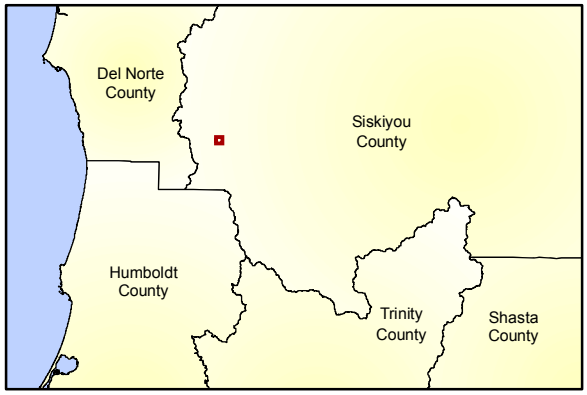


Figure 1
Ti-Bar to Exchange Area
SISKIYOU COUNTY, CALIFORNIA

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Franklin's bumblebee	*Bombus Franklini*	SSC	Builds hives in abandoned rodent burrows. Forages on flowering forbs and shrubs.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Mardon skipper butterfly	*Polites mardon*	FC	Fescue-dominated grasslands.	Not known for collections from forested areas of Siskiyou County. Fescue grasslands not observed from roadways. Not likely affected by construction activity.
steelhead – summer run Klamath Mountains Province	*Oncorhynchus mykiss*	SSC	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
coho salmon – Southern Oregon/Northern California coast	*Oncorhynchus kisutch*	FT	Constructs nests in cobble substrates of cool streams that reach the ocean and contain shallow, partly shaded pools, riffles, and runs.	Known to occur in the Klamath River. Not likely affected by construction activity.
green sturgeon	*Acipenser medirostris*	FT	Broadcast spawns in large watercourses that reach the ocean, usually within 160 kilometers of the coast.	Known to occur in the Klamath River. Not likely affected by construction activity.
Cascade frog	*Rana cascadae*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Del Norte salamander	*Plethodon elongates*	SSC	Mossy rocks on shady, forested slopes.	Documented to occur in habitats beyond the road prism. Not likely affected by construction activity.
foothill yellow-legged frog	*Rana boylii*	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Observed adjacent to the roadway in Wyman Gulch at MP 24.44. Not likely affected by construction activity with appropriate monitoring.
northern red-legged frog	*Rana aurora*	SSC	Breeds in streams, freshwater pools, and ponds with overhanging vegetation. Typically aestivates underground in upland habitats near permanent waters.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
northwestern pond turtle	*Clemmys marmorata*	SSC	Aquatic turtle found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	Potential to occur in suitable habitat adjacent to the roadway. Appropriate breeding and foraging habitat in slow waters of the Klamath River. Not likely affected by construction activity.
Scott Bar salamander	*Plethodon asupak*	ST	Rocky talus slopes beneath canopy cover.	Project area is beyond documented range. Not likely affected by construction activity.
Siskiyou Mountains salamander	*Plethodon stormi*	ST	Rocky talus slopes beneath canopy cover.	Documented range is east of the Project area. Not likely affected by construction activity.
western tailed frog	*Ascaphus truei*	SSC	Moist, forested slopes and drainages.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
American peregrine falcon	*Falco peregrinus anatum*	D, FP	Nests primarily on cliffs (occasionally constructed structures); forages in a variety of open habitats.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
bald eagle	*Haliaeetus leucocephalus*	D, SE, FP	Typically nests near large bodies of water or free-flowing rivers with abundant fish and adjacent snags and large trees. A known winter migrant.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
California yellow warbler	*Dendroica petechia brewsteri*	SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Cooper's hawk	*Accipiter cooperii*	SSC	Breeding resident throughout most of the forests and woodlands of California.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
loggerhead shrike	*Lanius ludovicianus*	SSC	Breeds in open habitats interspersed with shrubs and small trees.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
long-eared owl	*Asio otus*	SSC	Dense stands of riparian habitat near meadow edges.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
marbled murrelet	*Brachyramphus marmoratus*	FT	Dense stands of tall conifer near the Pacific Ocean.	Project area is potentially too far from the ocean. No documentation by the Klamath National Forest of marbled murrelet in the vicinity of the Project area. Not likely affected by construction activity.
merlin	*Falco columbarius*	SSC	Uses many habitats in winter and migration.	May occur as occasional visitor during migration and winter; does not breed in the region. Not likely affected by construction activity.
northern goshawk	*Accipiter gentilis*	ST	Dense stands of mature conifer forests.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
northern spotted owl	*Strix occidentalis caurina*	FT	Dense stands of mature conifer forests and woodlands.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
sharp-shinned hawk	*Accipiter striatus*	SSC	Dense wooded habitats including riparian deciduous and mixed conifer with north-facing slopes.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
western yellow-billed cuckoo	*Coccyzus americanus*	PT	Dense woodlands and thickets near streams.	Potential to occur in suitable habitat beyond the road prism. Not likely affected by construction activity.
American badger	*Taxidea taxus*	SSC	Known throughout California in multiple habitat types. Requires relatively open, uncultivated ground. Preys primarily on burrowing rodents such as gophers and ground squirrels.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Humboldt marten	*Martes Americana humboldtensis*	SSC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.
Pacific fisher	*Martes pennanti pacifica*	FC	Breeds in cavities of large trees, snags, stumps, and logs.	Potential to occur in suitable forested habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open dry habitats with rocky areas for roosting.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
ringtail	*Bassiriscus astutus*	FP	Woodlands, forests, and chaparral. Usually near water.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
spotted bat	*Euderma maculatum*	SSC	Associated with prominent rock features. Roosts on rock-faced cliffs. Forages in open areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Throughout California in a wide variety of habitats. Known to roost in constructed structures such as buildings and mines.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
wolverine	*Gulo*	ST, FP	A variety of habitats in isolated areas.	Potential to occur in suitable habitat adjacent to the roadway. Considered uncommon in California, but known from nearby data records. Not likely affected by construction activity.
Applegate stonecrop	*Sedum oblanceolatum*	CNPS 1B	Rocky, upper montane.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
English peak greenbriar	*Smilax jamesii*	CNPS 1B	North coast coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Howell's tauschia	*Tauschia howellii*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Koehler's stipitate rock cress	*Arabis koeheri var. stipitata*	CNPS 1B	Lower montane coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Marble Mountain campion	*Silene marmorensis*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Parish's alumroot	*Heuchera parishii*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

TABLE 1
Special-Status Species Potentially Occurring within or near the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Potential to Occur
Shasta chaenactis	*Chaenactis suffrutescens*	CNPS 1B	Forested mountain areas, sand, or serpentinite soils.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
Siskiyou fireweed	*Epilobium siskiyouense*	CNPS 1B	Subalpine coniferous forest.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.
white-flowered rein orchid	*Piperia candida*	CNPS 1B	Forested mountain areas.	Potential to occur in suitable habitat adjacent to the roadway. Not likely affected by construction activity.

Status Codes:

CNPS 1B = plants rare, threatened, or endangered in California and elsewhere
D = delisted
FC = federal candidate
FP = state fully protected
FT = federally threatened
PT = proposed threatened
SE = state endangered
SSC = species of special concern
ST = state threatened

Methods

The assessment of potential Project impacts on special-status species and their habitats consisted of reviewing existing database records and performing a reconnaissance survey of the Project area and adjacent habitats (see Photograph 1). The following online databases were reviewed to develop a list of special-status species and habitats that might occur in or near the Project area:

- Klamath National Forest
- U.S. Fish and Wildlife Service
- California Native Plant Society
- CDFW California Natural Diversity Database
- Ukonom Mountain and Dillon Mountain U.S. Geological Survey 7.5-minute topographical quadrangles

A combination windshield/pedestrian survey was used to assess habitat at the proposed Project area along Highway 96. The survey included both the defined Project area within the ROW and upslope and downslope adjacent habitats. Typical auditory and visual techniques were used to observe and identify wildlife and potential habitat components.

Results and Discussion

The survey was conducted on June 24, 2014. The weather conditions were mild to warm with sunny skies and light winds. No special-status wildlife were observed within the ROW or adjacent habitat during the field visit.

No special-status plants were observed within the Project ROW. Additionally, no special-status plants were observed within the riparian habitat of any of the culverts to be crossed. Culvert crossings would occur below grade and would not require that trees be removed along existing and routinely maintained highway

ROW with generally poor-quality habitat; therefore, the Project would have minimal potential to affect special-status plant species or their habitats.

In general, forested, riparian, and aquatic habitats within the Klamath River Basin support a variety of special-status wildlife species, including the following:

- American peregrine falcon (*Falco peregrinus anatum*) (state fully protected)
- Cascade frog (*Rana cascadae*) (state species of concern)
- coho salmon (*Oncorhynchus kisutch*) (federally threatened)
- Del Norte salamander (*Plethodon elongatus*) (state species of concern)
- foothill yellow-legged frog (*Rana boylii)* (state species of concern)
- green sturgeon (*Acipenser medirostris)* (federally threatened)
- Humboldt marten (*Martes Americana humboldtensis*) (state species of concern)
- marbled murrelet (*Brachyramphus marmoratus*) (federally threatened)
- northern goshawk (*Accipiter gentilis*) (state threatened)
- northern red-legged frog (*Rana aurora*) (state species of concern)
- northern spotted owl (*Strix occidentalis caurina*) (federally threatened)
- northwestern pond turtle (*Clemmys marmorata marmorata*) (state species of concern)
- Pacific fisher (*Martes pennanti pacifica*) (federal candidate species)
- Scott Bar salamander (*Plethodon asupak*) (state threatened)
- Siskiyou Mountains salamander (*Plethodon stormi*) (state threatened)
- western tailed frog (*Ascaphus truei*) (state species of concern)
- western yellow-billed cuckoo (*Coccyzus americanus*) (federal proposed threatened)
- wolverine (*Gulo gulo*) (state threatened and state fully protected)

A California Natural Diversity Database search indicates the Del Norte salamander has potential to occur near the Project area in suitable habitat (that is, loose rock rubble at the base of talus slopes). Moist, undisturbed rocky areas up or downslope from Highway 96 may provide suitable habitat for Del Norte salamander, but the specific road prism does not. The roadway consists of a compacted base layer that lacks interstitial spacing, required by salamanders for subsurface activity. No other special-status (terrestrial) wildlife species have been documented as observed within 0.5 mile of the proposed Project area footprint (CDFW, 2014). Special-status fish species occurring in the Klamath River would not be affected by proposed construction activities.

Recommendations

The potential to affect the Del Norte salamander is low; however, to minimize risk of harming the salamander, work should be conducted during dry weather to reduce the potential of surface activity and movement.

Although the overall risk of the Project in terms of spreading noxious weeds is low, the minimization measures listed below would reduce the spread of noxious weeds along the Project area. To the extent practicable, the introduction and spread of noxious weeds along the Project alignment would be minimized by applying the following best management practices:

- Construction access, and material laydown and staging would occur only on existing roads and previously disturbed sites.
- Only excavated onsite native materials would be used to backfill trenches.
- Spoils known to contain noxious weed propagules or that otherwise do not meet Caltrans backfill specifications would be removed to a Caltrans-approved disposal site.
- Project vehicles and equipment would be cleaned of weed propagules and seeds prior to the ground-disturbing activities.

Conclusion

Proposed construction activity by Siskiyou Telephone is not likely to affect any special-status wildlife or plant species or their habitat. Although the Klamath National Forest in general is known to provide suitable habitat for several special-status plant and wildlife species (see Table 1), the specific Project would occur within a previously disturbed road prism designed for high-speed vehicle traffic. The Project area consists almost exclusively of pavement and compacted fill materials. Additionally, with implementation of the aforementioned minimization recommendations, the potential to harm or disturb special-status species is low.

No aquatic habitats would be affected by proposed construction activities. The four minor water crossings would be accomplished by subgrade directional boring and would occur under the authority of CDFW.

References

Burt, W.H. and R.P. Grossenheider. 1976. *A Field Guide to the Mammals; North America North of Mexico*. Third edition. Peterson Field Guide Series. Boston, MA: Houghton Mifflin Company.

California Department of Fish and Wildlife (CDFW). 2014. California Natural Diversity Database Rarefind 5. Online data provided by the Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.

California Native Plant Society. 2014. Online species list. http://www.cnps.org/. Accessed June 20, 2014.

National Geographic Society. 1987. *Field Guide to the Birds of North America*. Second edition. Washington D.C.

National Marine Fisheries Service. 2014. Online species information. http://swr.nmfs.noaa.gov/. Accessed June 20, 2014.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Boston, MA: Houghton Mifflin Company.

Thorp, R.W. 2005. "Species profile: *Bombus franklini*" in Shepherd et al. *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland OR: The Xerces Society for Invertebrate Conservation.

U.S. Fish and Wildlife Service. 2014. Online database. http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm. Accessed June 20, 2014.

Photographs

Photograph 1. Intersection of T-Bar Road and Highway 96 within the Project area. No special-status wildlife or plants were observed during the survey visit on June 24, 2014.

Photograph 2. Typical ROW invasive grasses at road shoulder. Precautions would be implemented to avoid the spread of noxious weeds during construction.