3.0 PROPOSED PROJECT DESCRIPTION

GLOSSARY OF TERMS

Area of Direct Impact (ADI)	The ADI for the proposed running line would generally include a 20-foot buffer (10 feet on either side of the running line), but not to exceed the roadway right-of-way.
Broadband	Related to a high-speed communications network, especially one in which a frequency range is divided into multiple independent channels for signal transmission (e.g., voice, data, or video).
Conduit	Protective tube into which fiber optic cable is placed.
Directional boring	Steerable, trenchless method of installing underground conduits and cables along a prescribed bore path by using a surface drilling rig. Involves excavation of a launch (entry) pit and exit pit.
Fiber optic	Systems that use optical fiber (which transmits light signals) to transfer information in a communications network.
Frac-out	A release of bentonite drilling fluid during directional boring caused by the hydraulics of drilling fluid finding the path of least resistance.
In-Line Amplifier (ILA)	A collection of equipment that regenerates fiber optic signals and provides tie-ins to regional wireless service providers. Each ILA would be housed within a metal or concrete facility called a "regeneration hut."
Materials Storage Yard	Offsite, long-term location identified for worker staging and parking, materials storage, equipment maintenance, and placement of construction trailers.
Plowing in	Method of cable installation that involves using a vibrating blade to split the ground, insert a bundle of conduit at the desired depth, and compact the soil, resulting in a seamless and minimally invasive cable installation process.
Right-of-way	Defines the boundaries of the easement maintained by Caltrans along United States Highway 395, which varies in width from 60 to 1,500 feet in California. Also defines the boundaries of the easement maintained by County roadways.
Running line	Planned pathway for the installed fiber optic cable and conduit.
Staging Area	Temporary equipment and materials storage areas located within the right-of-way adjacent to the running line.
Trenching	In rocky or inaccessible areas, fiber optic cable may be installed by digging an open trench using an excavator or backhoe, laying the fiber optic conduit, and backfilling and compacting.
Vault	Underground cabinet or manhole that provides maintenance access to the fiber optic system. Vaults are made of fiberglass and would be covered by a secure hatch that lays flush with the ground.

3.1 PROJECT OVERVIEW

Zayo Group, LLC (applicant), a California telephone corporation, proposes the construction and operation of an underground fiber optic network from Prineville, Oregon, to Reno, Nevada (project), spanning 433.8 miles. The purpose is to improve the quality of rural broadband in south-central Oregon, northeastern California, and northwestern Nevada, and to make affordable broadband internet services available to currently underserved communities in these areas.

The portion of the project that crosses California would extend ~~193.9~~194 miles across the northern edge of Modoc County (59.8 miles) and the City of Alturas (1.6 miles), through Lassen County (129.6 miles), and into the eastern edge of Sierra ~~portions of Modoc, Lassen, and Sierra~~ Counti~~es~~y (3.1 miles). The project crosses through unincorporated communities in Modoc County, including New Pine Creek, Davis Creek, Ramsey, and Likely, as well as the City of Alturas. Within Lassen County, the project traverses the communities of Sage Hen, Pinnio, Madeline, Brockman, Moran, Termo, Viewland, Litchfield, Standish, Buntingville, Milford, and Doyle. In Sierra County, the project does not pass through any cities or census-designated communities.– In order to minimize environmental impacts, the project has been sited along existing rights-of-way where other utilities are currently located. The majority of the project would follow US 395. A portion of the line between the communities of Standish and Buntingville in Lassen County, California, would follow the country roads Standish Buntingville Road (Lassen County Road A3) for 7.35 miles and Cummings Road for 1.15 miles before returning to the right-of-way parallel to US 395 (Figure 3-1).

Along the majority of the route, conduit to house the new fiber optic cable would be buried using a combination of plowing or trenching construction techniques. Alternatively, horizontal directional drilling would be used to cross water bodies and roads, and where necessary to avoid existing infrastructure or biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges. Ancillary equipment would be installed at three small buildings that would serve as amplifier sites (ILAs). Fiberglass vaults would be installed flush to the ground along the running line to provide maintenance access and at splice locations. All construction activities would be conducted in compliance with Caltrans requirements and county longitudinal utility encroachment permit procedures. The applicant would be installing conduit beyond the immediate need of the current project to ensure future capacity.

3.2 EXISTING AND PROPOSED SYSTEM

3.2.1 Existing System

The project would provide broadband infrastructure to improve connectivity from locations within California to high-capacity data centers in other western states, supporting some of the most innovative and largest employers in California. Another potential benefit would be future access to broadband by resellers of ISP and other services in rural broadband in south-central Oregon, northeastern California,

and northwestern Nevada by providing a redundant system[1]. In order to meet the needs of a truly redundant system, the line would need to not only provide expanded and alternative bandwidth in the case of an emergency or catastrophic event (e.g., landslides, earthquakes) but to be located a distance from existing infrastructure as to not be vulnerable to the same outage threats to which current corridors are subjected.

[1] This project represents the second leg of a redundant system, the first leg of which runs from Portland to Sacramento. No Zayo broadband infrastructure currently exists along the proposed route in California.

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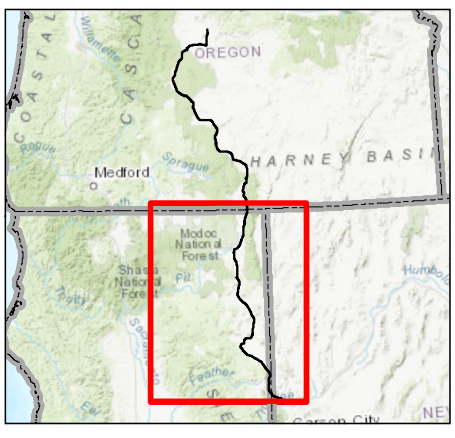

Alignment
Highway
County Boundary
State Boundary

0 10 20 Miles
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N

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-06-19
Technical Review by SV on 2020-06-19
Independent Review by DW on 2020-06-19

Client/Project
Zayo
Fiber Optic Line--Prineville to Reno

Figure No.
3-1

Title
Project Location
Proposed Prineville to Reno
Fiber Optic Line

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; CPAD 2019
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

3.2.2 Proposed Project System

Prineville and Reno are both network hubs and thus were considered as the end points of the running line (i.e., logical termini). Because California state agencies such as CPUC maintain jurisdiction and discretionary authority solely for actions within the State of California, this PEA only analyzes project activities taking place within California. Environmental impact information for the Oregon and Nevada portions of the project will be incorporated by reference into the PEA from reports analyzing impacts within those states, as required by relevant state and federal agencies.

3.2.3 Planning Area

The project would provide connectivity between the network hub in Prineville and the communities of Bend and La Pine in Oregon; Alturas, Lakeview, and Susanville in California; and the greater Reno/Sparks metropolitan area in Nevada. These communities need increased redundancy and alternative bandwidth services to improve the poor reliability of current telecom services.

3.3 PROJECT COMPONENTS

3.3.1 Preliminary Design and Engineering

The preliminary design and engineering are described in Section 3.3.4, Proposed Facilities. Figure 3-2 depicts a summary of the project components; Appendix A includes detailed maps.

3.3.2 Segments, Components, and Phases

The project would be constructed over a period of 6 months as further described in Section 3.6.4, Construction Schedule. Proposed components associated with the project are outlined in Section 3.3.4, Proposed Facilities.

3.3.3 Existing Facilities

As described in Section 3.2.1, Existing System, the project would provide broadband infrastructure to improve connectivity from locations within California to high-capacity data centers because existing infrastructure is not currently in place to support this objective. As such, no existing fiber optic facilities are located within the proposed alignment location.

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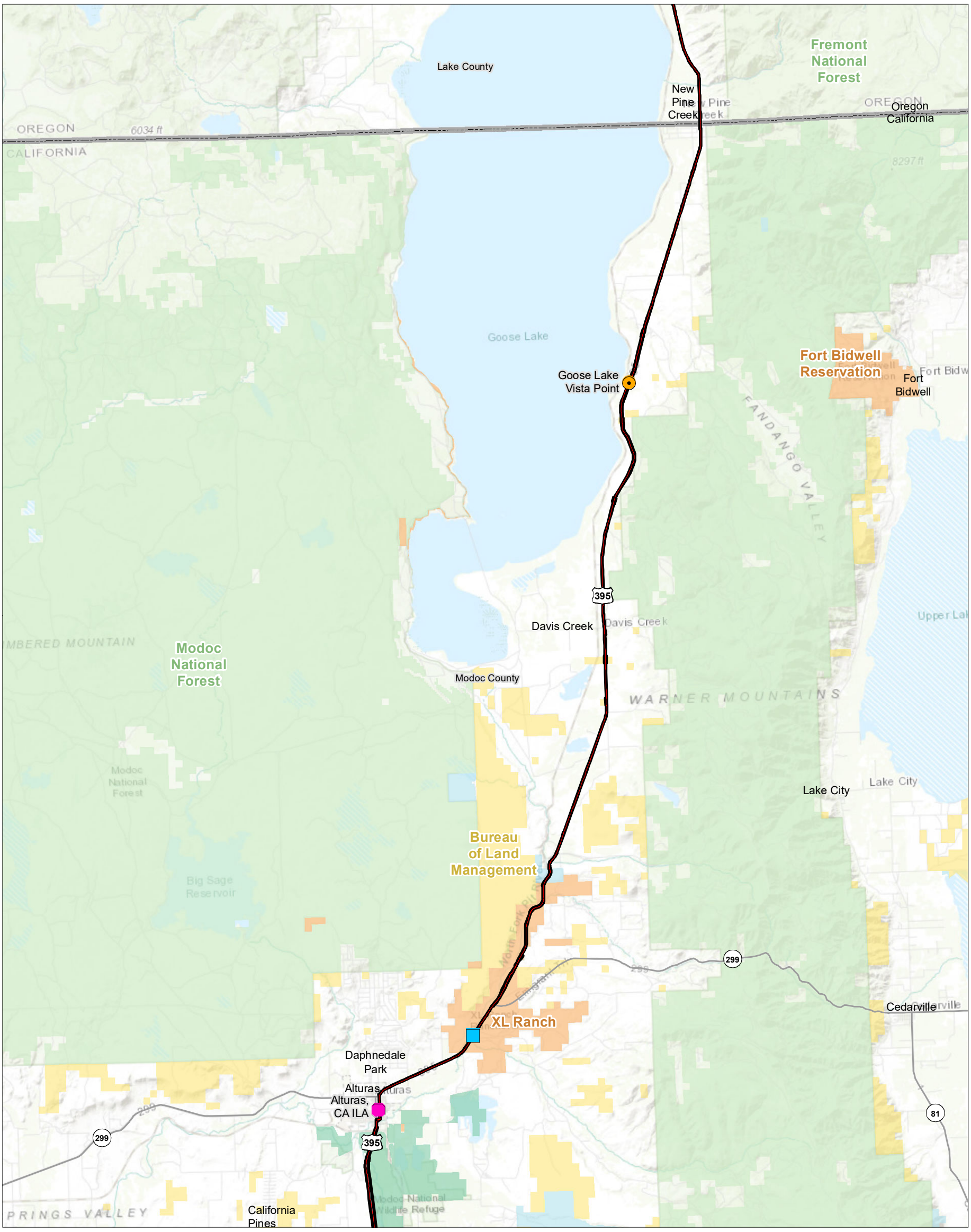

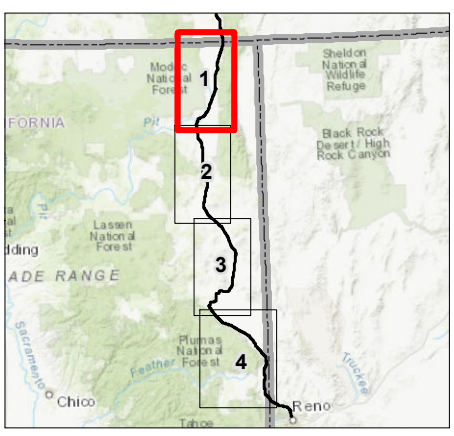

Alignment
Right-of-Way
ILA
Staging Area
Goose Lake View Point

Land Ownership
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- US Fish and Wildlife (USFW)
- US Forest Service (USFS)
- State

0 2.5 5 Miles
1:230,000 (At Original document size of 11x17)

N

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-07-20
Technical Review by CS on 2020-07-20
Independent Review by CB on 2020-07-20

Client/Project
Zayo
Fiber Optic Line--Prineville to Reno
July 2020

Figure No.
3-2

Title
Project Components
Proposed Prineville to Reno
Fiber Optic Line

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; USGS 2020; BLM 2020
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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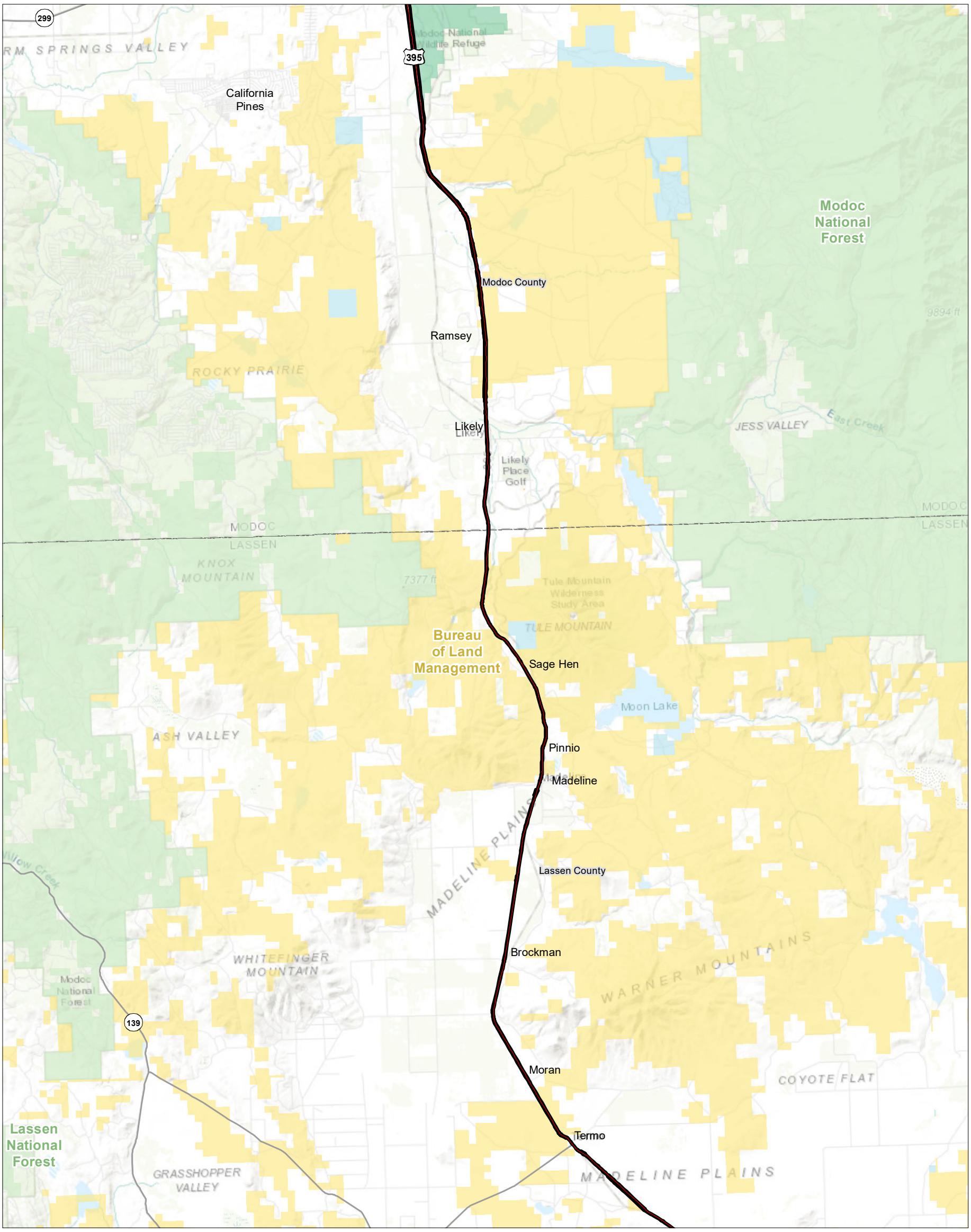

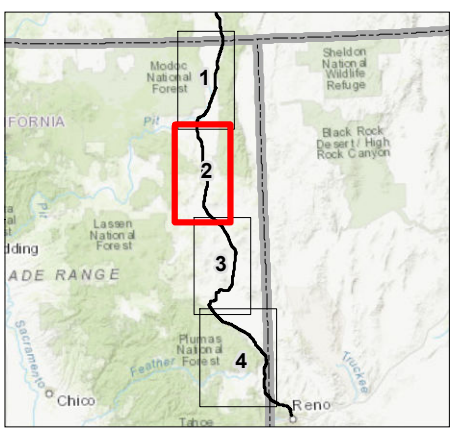

Alignment
Right-of-Way

Land Ownership
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- US Fish and Wildlife (USFW)
- US Forest Service (USFS)
- State

0 2.5 5 Miles
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N

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-07-20
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Client/Project
Zayo
Fiber Optic Line--Prineville to Reno
July 2020

Figure No.
3-2

Title
Project Components
Proposed Prineville to Reno
Fiber Optic Line

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

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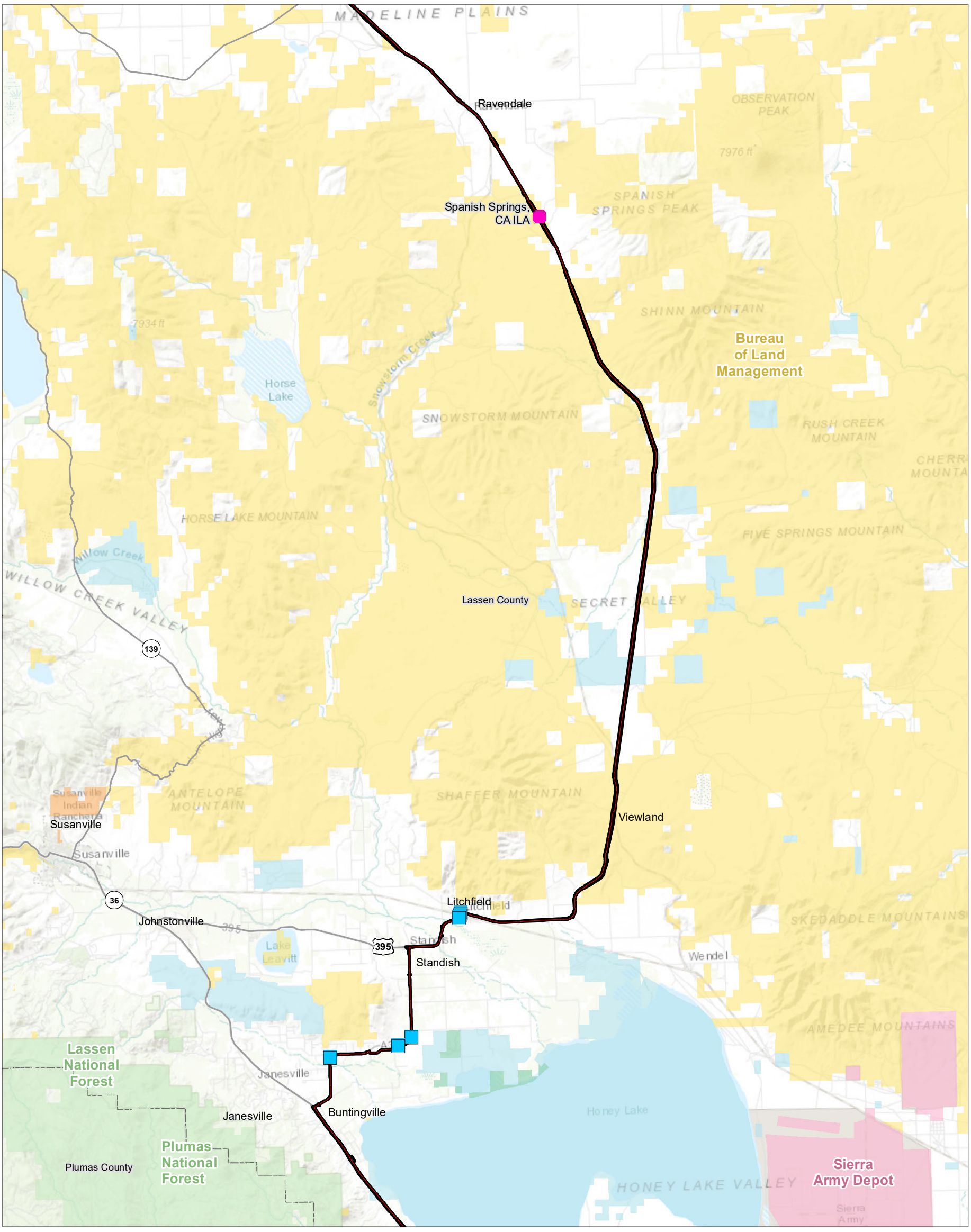

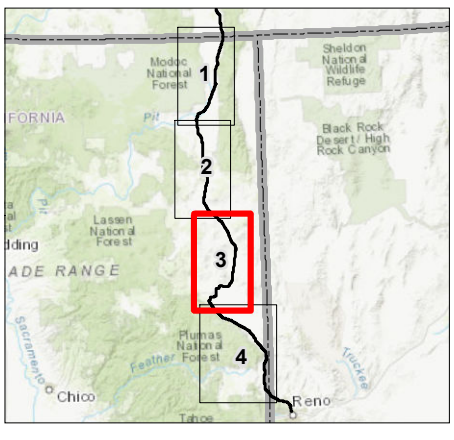

Alignment
Right-of-Way
ILA
Staging Area

Land Ownership
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- Department Of Defense (DOD)
- US Fish and Wildlife (USFW)
- US Forest Service (USFS)
- State

0 2.5 5 Miles
1:230,000 (At Original document size of 11x17)

N

Stantec

Project Location
Prineville, OR to Reno, NV

2272020011
Prepared by JC on 2020-07-20
Technical Review by CS on 2020-07-20
Independent Review by CB on 2020-07-20

Client/Project
Zayo
Fiber Optic Line--Prineville to Reno
July 2020

Figure No.
3-2

Title
Project Components
Proposed Prineville to Reno
Fiber Optic Line

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; USGS 2020; BLM 2020
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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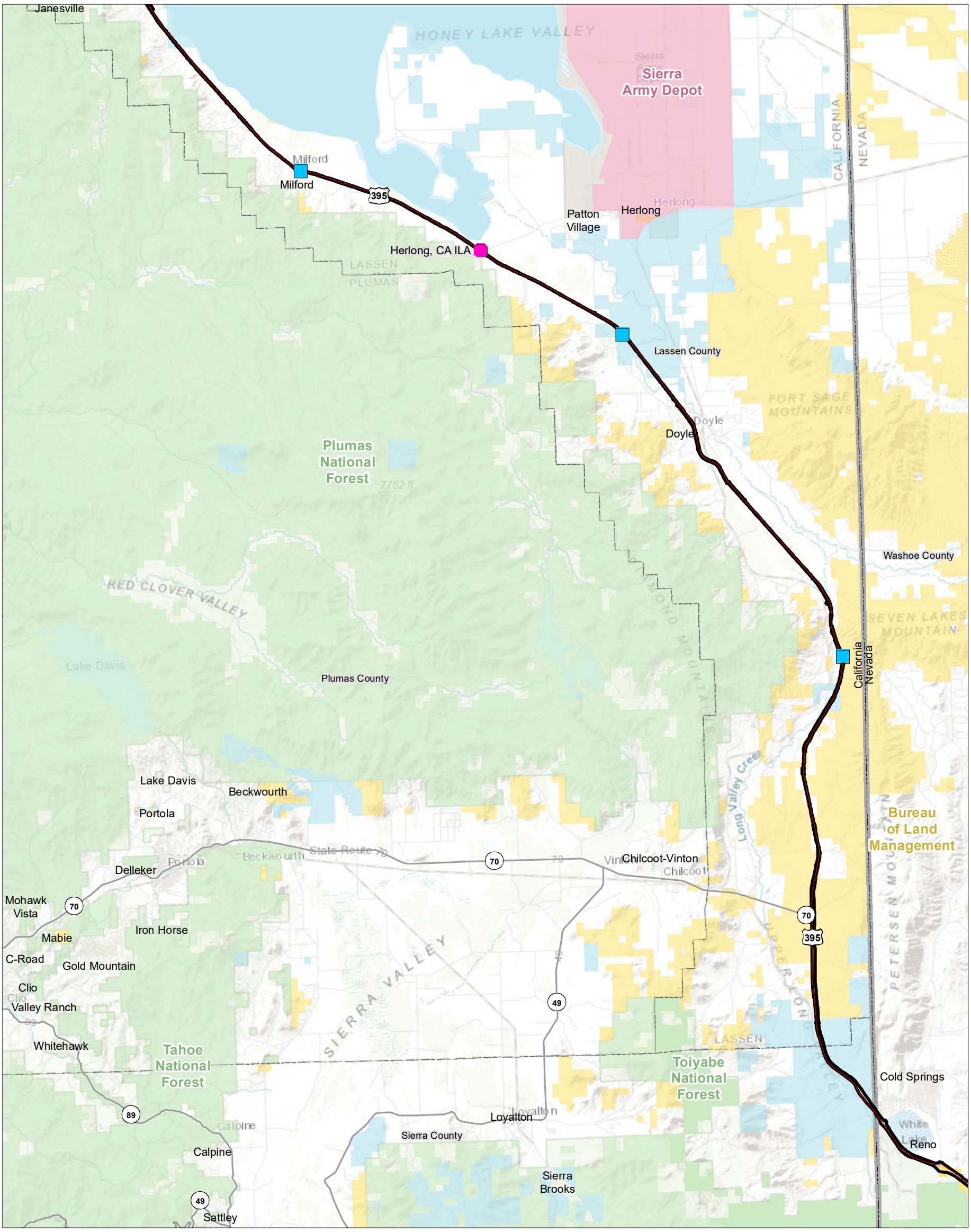

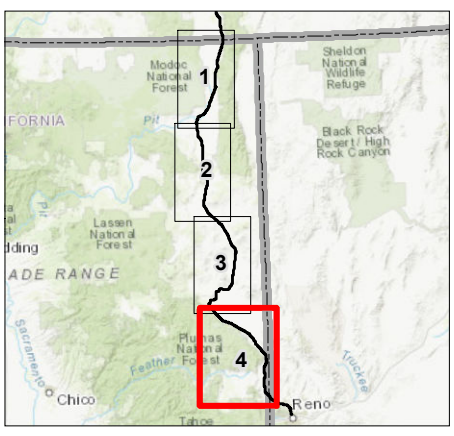

Alignment
Right-of-Way
ILA
Staging Area

Land Ownership
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- Department Of Defense (DOD)
- US Forest Service (USFS)
- State

0 2.5 5 Miles
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Client/Project
Zayo
Fiber Optic Line--Prineville to Reno
July 2020

Figure No.
3-2

Title
Project Components
Proposed Prineville to Reno
Fiber Optic Line

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data source: Esri 2020; USGS 2020; BLM 2020
3. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

3.3.4 Proposed Facilities

3.3.4.1 Fiber Optic Cable

The project would involve construction of approximately ~~193.9~~194 miles of underground, shielded fiber optic telecommunications cable within three protective 3.2-centimeter-diameter (1.25-inch-diameter) high-density polyethylene (HDPE) standard dimension ratio 11 conduits (i.e., the outside diameter is 11 times the thickness of the conduit wall) (Figure 3-2). An additional conduit would be installed from the Oregon-California border to Davis Creek for a total of four conduits. A fifth and sixth conduit would be added from Davis Creek to Alturas, for a total of six. From Alturas to Standish there would be five conduits total. These additional conduits would remain empty and would receive cable at some point in the future in coordination with other network providers. The project would be constructed in one phase that would occur over a period of 6 months as described in Section 3.6.4, Construction Schedule. The fiber optic network would be capable of a range of upload and download speeds depending on the customers and providers. Appendix A includes detailed maps of the proposed facilities.

3.3.5 Other Potentially Required Facilities

In-Line Amplifiers

ILAs are the primary aboveground infrastructure related to the fiber optic line. ILAs consist of a collection of equipment that regenerates signals and provides tie-ins to regional wireless service providers. ILAs are currently planned to occupy properties in Herlong (0.78 acre), Spanish Springs (0.12 acre), and Alturas (0.25 acre), California. Each ILA would consist of a prefabricated concrete or steel regeneration hut erected on a concrete pad with a surrounding perimeter fence around the hut. The regeneration hut structure would be setback from the fence line, would be approximately 420 square feet (0.01 acre), and would be approximately 11 feet in height.

Each ILA would be equipped with an exterior motion-sensor floodlight, an air conditioner, and 100-~~kw~~kilowatt backup power generator. The interior of the ILA would house an electrical cabinet with control cabling and surge suppressor, a heating, ventilation, and air conditioning (HVAC) control panel, exhaust fan, security alarm, HVAC and generator fail alarms, and emergency exit lighting. All electrical components would be grounded, and a wired smoke detector would also be installed inside. Electrical power would be obtained through an underground tie-in to existing distribution lines. ~~Electrical power would be supplied to the ILAs by a commercial power company, and a backup emergency generator would be housed onsite.~~ Tie-ins ~~locations~~ would occur at vaults. Figure 3-3 shows an example ILA. Section 3.5.5.4, Ancillary Facility Construction, includes additional details regarding the ILA locations.

Figure 3-3: Example Regeneration Hut Housing an In-Line Amplifier

~~Figure 3-2: Project Components~~

~~**Figure 3-2 page 2**~~

~~**Figure 3-2 page 3**~~

~~**Figure 3-2 page 4**~~

Vaults

A vault provides maintenance access to the underground fiber optic cable conduit and connections. Each vault would be flush to the ground and covered with a secure access door. The vaults would be spaced approximately every 2,500 to 3,500 feet along the running line. Vaults would be approximately 30 inches by 48 inches and would be installed in sets of three. The dimensions of each three-vault excavation area would be 15 feet long by 3 feet wide by 3 feet deep. The excavation area would be backfilled and compacted. Additional excavation space may be needed at splice locations or when transitioning from one installation method to another. Splice boxes (i.e., small, rectangular plastic or HDPE enclosures) would be installed within the vaults to hold wire connections. Figure 3-4 depicts a typical vault and line marker.

Figure 3-4: Typical Vault and Line Marker

Line Markers

Line markers, which would be co-located with the vaults along the running line, are 4-foot-tall, flexible fiberglass posts used to mark the location of the buried conduit. The exact location of the marker posts would vary depending on the environmental site conditions and vegetation.

3.3.6 Future Expansions and Equipment Lifespans

As described in Section 3.1, Project Overview, while the applicant does not anticipate future expansions, the applicant would be installing conduit beyond the immediate need of the current project to ensure future capacity. The applicant anticipates lifespan of the project facilities to be approximately 35 years.

3.4 LAND OWNERSHIP, RIGHTS-OF-WAY, AND EASEMENTS

3.4.1 Land Ownership and Administration

The majority of the project would be located along US 395 within the right-of-way managed by Caltrans and would require an encroachment permit from Caltrans. The lands underlying the Caltrans right-of-way are ~~owned or~~ administered by various state, federal, and private entities, including BLM, USFS, USFWS, California State Lands Commission, and several tribal entities. Details regarding the land ~~ownership~~ administration underlying the running line are provided in Table 3-1. An 8-mile segment of the running line would deviate from US 395 and run along Standish Buntingville Road (Lassen County Road A3) and Cummings Road between the communities of Standish and Buntingville in Lassen County, California. In this location, the underlying land is owned by Lassen County.– While the majority of the project would be

within existing roadway right-of-way, several ancillary facilities (ILAs), staging areas, and material storage yards would be located within previously disturbed areas adjacent to the existing right-of-way.

Table 3-13-1: ~~Land Ownership~~ Public Land Crossed by the ~~Underlying the~~ Running Line

~~Ownership~~Public Land		Miles Crossed by Running Line
Roadway Right-of-Way	**Federal/State**	
	Bureau of Indian Affairs	6.4~~1~~5
	Bureau of Land Management	38.5~~2~~
	US Fish and Wildlife Service	1.0~~2~~
	California Dept. of Fish and Wildlife	~~3.37~~6.2
	California State Lands Commission	2.6~~56~~
	Federal/State Total	**54.7**
	Local (not within Federal/State Jurisdiction)	
	Unincorporated Modoc County~~Undefined~~[1]	46.8~~139.29~~
	Unincorporated Lassen County	89.7
	Unincorporated Sierra County	1.3
	City of Alturas	1.6
	Local Total	**139.4**
	~~Hallelujah Junction Wildlife Area~~	~~2.79~~
194.2	**Total**	**194.2**

~~Note:~~

~~1. Undefined includes land within Caltrans right-of-way or local roadways that is not within jurisdiction of federal and state resource agencies identified in the table.~~

3.4.1 New, Existing, and Temporary Rights-of-Way or Easements

The running line and associated ancillary equipment would be placed within existing Caltrans and county-maintained roadway rights-of-way and on private property. These existing rights-of-way range from 60 to 1,500 feet wide. No new or modified rights-of-way are anticipated to accommodate construction of the project. The project would not change any existing land uses or displace any properties, and no temporary rights-of-way would be required. Easements will be obtained for underlying rights, including the California State Lands Commission, BLM, USFS, and the Bureau of Indian Affairs, as further discussed in Section 3.10, Anticipated Permits and Approvals. Leases would be obtained for components located on private land. ~~New easements would be required for the portions of the running line that traverse the Bureau of Indian Affairs' XL Rancheria, the Modoc Wildlife Refuge, and BLM land.~~ The applicant would coordinate with these agencies and submit an application indicating the areas that would be included along with the project description, environmental impact analyses, and any other required documents. In addition, the applicant would coordinate with Caltrans and local jurisdictions to obtain encroachment permits to work within their roadway rights-of-way. Staging areas and material storage yards located on

private land would require temporary construction easements. Ancillary facilities, such as ILAs, would be located on leased private land.

3.5 CONSTRUCTION

3.5.1 Construction Access

3.5.1.1 Access Roads and Overland Access Routes

The project would be accessible using existing roadways and local arterials generally limited to US 395 and along small portions of Standish Buntingville Road and Cummings Road.– Construction vehicles and equipment ~~are~~would be expected to be staged or parked within project area rights-of-way, approved temporary construction easements, or along the access roads.– Material storage yards would be located adjacent to the project alignment and would be accessed using the most immediate exit or turn-off of US 395 (e.g., Termo Grassland Road, East Road, etc.)~~,~~; see Appendix A for details.- ~~.~~No new access roads would be constructed, and no road or bridge modifications or stabilization activities would be required to accommodate project construction. No overland access would be needed during construction or operation of the project. The majority of project activities would be limited to the road right-of-way or within the existing roadway prism.

3.5.1.2 Watercourse Crossings

No new or temporary watercourse crossings would be required during construction or operation of the project. Construction equipment would cross watercourses using existing bridges. All aquatic features and associated riparian vegetation would be avoided via boring. Large crossings with adequate bridges ~~will~~would have cable installed on the bridge. Select, CDFW-approved minor crossings ~~will~~would be trenched. ~~Fiber optic cable would be attached to the side of existing bridges or directionally drilled beneath minor watercourses~~ (Figure 3-5).

Figure 3-5: Bridge Attachment

3.5.1.3 Helicopter Access

The use of helicopters during construction would not be required.

3.5.2 Staging Areas and Materials Storage Yards

3.5.2.1 Staging Area Locations

Staging areas would average 130 feet by 75 feet, with the longer side parallel to the right-of-way. The exact size would depend upon site conditions. Staging areas would be intermittently active as construction advances. Temporary parking of vehicles (overnight) would occur within the right-of-way or in materials storage yards. Table 3-2 and Figure 3-2 detail the number and acres of potential staging areas.

Table 3-~~23~~ ~~2~~: Staging Areas by County

County	Staging Areas (Count)	Staging Areas (Acres)
Lassen	9	3.46
Modoc	1	0.23

3.5.2.2 Staging Area Preparation

Staging areas would typically be located within or close to the right-of-way in previously disturbed areas, so little site preparation should be required. In areas that contain sparse vegetation that could cause a fire hazard for parked vehicles or equipment, the vegetation may be mown. No grading, or extensive vegetation removal would be conducted; and no fencing, temporary electrical power lines, or lighting would be installed. For staging areas near sensitive resources, the construction contractor would have the staging area boundaries marked prior to use. Staging areas would be used for vehicle parking and short-term placement of equipment, conduit, and cable and would be located within or close to the right-of-way, with the exception of several staging areas that would be located outside of the right-of-way in previously disturbed areas such as the shoulder of a spur road.

3.5.2.3 Material Storage Yards

Offsite materials storage yards would be located at existing, leased industrial or commercial space in Summer Lake, Lakeview, Alturas, Termo, and Standish, California. Locations chosen would be paved or well graded and ideally would be fenced, would range between 5,000 and 15,000 square feet, and would be located approximately 60 miles apart from each other along the running line as shown on Figure 3-2. As summarized in Section 3.6.3, Construction Traffic, ~~approximately 30 miles were assumed to be~~ the maximum distance between the daily construction site and the closest material storage yard (each way) was assumed to be approximately 30 miles.– The project construction location would be continuously moving, but trucks are not intended to travel more than 30 miles each way to get to the construction site.

It is anticipated that no additional ground disturbance would be required for site preparation of the material storage yards. These yards provide locations to store materials and equipment and conduct fueling and maintenance work. These areas would also be used for worker parking and training; as emergency muster points; and for storage of cable, conduit, and equipment. These yards may also house temporary construction trailers, bathrooms, and break facilities. Power would be supplied through grid power and the use of generators is not anticipated. Materials staging yards are generally composed of previously disturbed or developed areas (e.g., asphalt, gravel, or dirt parking lots). It is expected that more yards would be identified than would actually be needed. Additional locations have been identified to allow for flexibility should any of the proposed yards prove to be impractical.

3.5.3 Construction Work Areas

3.5.3.1 Construction Work Areas

Construction work areas would primarily occur within or adjacent to the existing right-of-way and would vary based on conduit installation method. Overall, all conduit installation activities would be encompassed within a work area with an average width of 20 feet. Soil disturbance from the plowing-in method is anticipated to be approximately 4 to 6 inches wide but may be slightly wider, and to a depth of up to 42 inches. If pre-treatment (e.g., ripping hard soil, removal of boulders) is required prior to plowing, temporary soil disturbance may extend to a width of 6 feet. Soil disturbance associated with trenching installation is anticipated to be approximately 12 inches wide and at a depth of up to 42 inches, and would require a work area of approximately 6 feet based on terrain type and accounting for side-cast soils.

Work areas for directional boring would vary based on topography and environmental factors. Each bore would require excavation of a launch (entry) pit and exit pit approximately 3 feet wide by 10 feet long to allow for the entrance and exit of the bore. Directional bores can extend from approximately 50 feet to more than 2,500 feet. The minimum depth of the bore would be in compliance with requirements of the regulatory agencies. Following conduit installation, all temporary work areas would be restored to original conditions. Table 3-3 summarizes the temporary and permanent impacts by project component and Table 3-4 describes the project components by location.

Table 3-33-3: Temporary and Permanent Impacts by Project Component

Component	Temporary Impact (acre)	Permanent Impact (acre)
Staging Areas	3.69	N/A
Material Storage Yards	0.75	N/A
ILAs	-N/A	1.15
Vaults/Markers*	0.1014	0.2028
Running Line Construction Footprint	470.4422	N/A
Total	**474.9880**	**1.3543**

Note:* Vaults and markers are located within the running line impact acreage. As a result, their impact acreage has been calculated separately and is not included in the running line impact acreage.

Table 3-~~43-~~4: Project Component by Location

Location	Staging Areas (Temporary)	Material Storage Yards (Temporary)	ILAs (Permanent)	Vaults/Markers*		Running Line Construction Footprint (Temporary)
				(Temporary)	(Permanent)	
Within Roadway Right-of-Way						
Roadway Right-of-Way-	-	-	-	0.14	0.28	470.22
Outside of Roadway Right-of-Way (Private Land)						
Unincorporated Modoc County	0.23	-	-	-	-	-
Unincorporated Lassen County	3.46	0.61	0.90	-	-	-
Unincorporated Sierra County	-	-	-	-	-	-
City of Alturas	-	0.14	0.25	-	-	-
Total	**3.69**	**0.75**	**1.15**	**0.14**	**0.28**	**470.22**

Note:* Vaults and markers are located within the running line impact acreage.– As a result, their impact acreage has been calculated separately and is not included in the running line impact acreage. Areas located outside of the roadway right-of-way are on private land within unincorporated Modoc County, unincorporated Lassen County, unincorporated Sierra County, or the City of Alturas.

3.5.3.2 Temporary Power

If needed, power would be provided to the work areas via diesel generators. No temporary power lines would be installed.

3.5.4 Site Preparation

3.5.4.1 Surveying and Staking

Environmentally sensitive areas adjacent to planned work areas would be staked or identified in some way as exclusion areas prior to construction. The proposed placement for conduit may be marked ahead of installation with washable spray paint or other temporary markers to serve as an installation guide.

3.5.4.2 Utilities

Prior to mobilization, the contractor would call in a DigAlert in compliance with utility regulations to confirm the locations of existing utilities that may be within work areas. Prior to conduit installation, the contractor would locate existing utilities using a vacuum truck or via hand tools to safely expose their location. The project would not involve the relocation of any existing underground or overhead utilities.

3.5.4.3 Vegetation Clearing and Tree Trimming or Removal

In areas within the right-of-way that contain vegetation that could cause a fire hazard for parked vehicles or equipment, the vegetation would be mown or grubbed prior to conduit installation. No grading, tree removal or trimming, or extensive vegetation removal is anticipated to be required for conduit installation.

3.5.4.4 Work Area Stabilization

Prior to cable installation, sloped areas would be "track walked" where treads from heavy equipment run parallel to the contours of the slope and act as mini terraces, reducing soil movement. Side-cast from trenching installation methods would be bermed with wattles or covered should the spoils remain in place for more than 1 work day.

3.5.4.5 Grading

No grading would occur along the running line. Minor grading may be required to provide a level surface for regeneration huts at ILA sites.

3.5.5 Fiber Optic Line Installation

The project would involve the installation of an underground fiber optic network. Construction would primarily be performed using plowing or trenching. Alternatively, horizontal directional drilling would be used to cross water bodies and roads and where necessary to avoid sensitive or protected biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges.

Ancillary equipment would be installed within regeneration huts at ILA sites. Figure 3-~~2~~3 depicts an example of a regeneration hut. Along with these ILAs, the project would install fiberglass vaults flush to the ground surface to provide maintenance access at splice locations.

Installation of the fiber optic line would involve four main steps:

1. Conduit installation: Protective conduit for the fiber optic cable would be installed by plowing, trenching, or directional boring, or by affixing conduit onto an existing bridge. The area of direct impact (ADI) for the proposed running line would ~~generally~~ include a 20-foot buffer (10 feet on either side of the running line), but not to exceed the roadway right-of-way.

2. Conduit proofing: The conduit would be prepared to receive the fiber optic cable by a process known as proofing. This process involves forcing a cleaning sponge or plug through the conduit using compressed air to clean and lightly lubricate the inside of the conduit. A cable pulling tape would then be sent through the line to reduce friction. The lubricant used during the conduit proofing process is a mineral-based oil containing silicone.

3. Cable pulling and blowing: The fiber optic cable would be blown into and pulled through the conduit. The cable pulling tape would be attached to the leading end of the fiber and pulled, while compressed air would be used to blow the cable into the conduit.

4. Ancillary facility construction: Construction of vaults and ILAs would occur concurrently with conduit installation.

The construction method used to install conduit would include a combination of plowing, trenching, boring, and bridge hanging. The project construction sequence would include several construction "spreads" operating concurrently, each with its own team or teams of construction workers and equipment. The running line would be placed as far away from the roadway edge of pavement as practicable to minimize possible disturbance to highway operations. The applicant would coordinate with Caltrans regarding the placement of the running line to ensure the reduction of potential impacts to environmental resources. It is assumed that construction would result in up to 400 cubic yards of spoils (e.g., dirt or rock that results from excavation) related to the displacement of soil for installation of the vaults; however, soil would be balanced onsite wherever possible.

3.5.5.1 Conduit Installation

Trenching

In areas where soils are rocky, trenching techniques may be used for the conduit installations. Trenching would use an excavator to dig a trench from 36 to 42 inches deep for placement of the conduit. Excavated soil would temporarily be placed adjacent to the running line until the conduit is placed. If needed, a bulldozer equipped with a specialized single ripper would loosen the soil and rocks along the installation path ahead of the trenching excavator. Where soils are extremely rocky or bedrock is present, a rock hammer or rock saw may be required to prepare the ground before trenching. Conduit would either be fed from the plow bulldozer or from a separate truck-mounted reel through a plow chute attached to the plow and would be laid directly in the bottom of the trench. The trench would then be backfilled by an excavator using the native soil that was excavated onsite, followed by a compaction machine that would restore the ground surface to its original contour. Where native soil is not conducive for backfill, material would be provided by an offsite source. Excess or inadequate fill would be disposed of under the appropriate permit at a licensed, offsite facility. As further described in Section 5.9, Hazards and Hazardous Materials, APM HAZ-1 includes measures to test soils adjacent to hazardous materials sites prior to the start of construction activities and measures for proper containment and treatment of potentially hazardous materials should contact with these sites not be avoidable. As discussed in Section 3.7.1, ~~Landscaping, Demobilization, and Site Restoration~~Post-Construction, each work area would be restored to pre-project topography immediately following cable installation. Dewatering is not anticipated to be needed because conduit would be installed at a depth that is shallower than the groundwater table, as further described in Section 3.5.9, Water Use and Dewatering.

Each crew could typically install 500 linear feet of conduit per day using the trenching method. The total width of the running line construction corridor (ADI) would be 20 feet. The trench would be backfilled with native ~~materials~~ soil soon after conduit installation. Dust control measures would be implemented during both plowing and trenching to reduce fugitive dust as further outlined in Section 3.5.7, Dust, Erosion, and Runoff Controls.

Figure 3-6: Typical Fiber Optic Conduit Plow

Plowing

In areas where soils are relatively free of rocks and directional boring is not required to avoid sensitive resources on or near the surface, "plowing in" construction techniques would be used for the conduit installations. Plowing would be conducted using an excavator to dig a trench from 36 to 42 inches deep for placement of the conduit. This method would insert a plow shank into the ground to loosen soil at depth. Soil disturbance from the plow shank would be approximately 12 feet wide. This method would simultaneously excavate and place the conduit in a single operation. As the plow shank moves forward, the conduit would be fed into the space created by the plow shank. Figure 3-6 depicts an example of the fiber optic conduit plowing method.

After the conduit is installed, a mid-size excavator with a backhoe or a vibra-plate would follow directly behind the plow shank to restore the ground surface to its original contour. A static roller or a dozer would follow behind to ensure that ground is sealed and compacted. As described above, each work area would be restored to pre-project topography immediately following cable installation. Dewatering is not anticipated to be needed because conduit would be installed at a depth that is shallower than the groundwater table, as further described in Section 3.5.9, Water Use and Dewatering.

This method is the preferred installation method because it is fast and results in the least amount of ground disturbance; however, it requires soils to be relatively free of rocks or other obstructions. Based on preliminary field reconnaissance, this method would be appropriate in only small segments of the running line. This method would not be used within any paved areas.

Directional Boring

Directional boring is conducted by specialized drill equipment that places conduit by an underground drill-and-push method, which allows placement of conduit with minimal ground disturbance. This method is commonly used to install utility lines under waterbodies and beneath roads and in other areas where the avoidance of surface disturbance is desirable. For this project, directional boring would be used to avoid or minimize encroachment into certain sensitive surface resources such as wetlands, waterbodies, and cultural sites.

Directional boring machines are essentially horizontal drilling rigs with a steerable drill bit. Each directional bore begins ~~would begin~~ with the creation of a pilot hole through which the drill bit is guided by the operator as it progresses along the desired boring path. After the pilot hole has been bored, conduit is attached to the end of the drill string and is pulled back through the bore. Bores would be of sufficient

diameter to accommodate the 1.25-inch-diameter conduit, and the conduit would be placed at a depth of 36 to 42 inches below ground.

Figure 3-7: Horizontal Drilling Rig and Conduit

Small launch (entry) and exit pits are needed on either side of the bore. The entry and exit pits would be 4 feet long by 1 foot wide by 1 foot deep (4 cubic feet) and would be accompanied by a ground-level "setup area." The shorter the bore, the smaller the setup area (15 to 20 feet for short bores, up to 60 feet for large bores). The maximum length of the bore would be 750 feet. Bores in excess of 750 feet would be split—one bore would originate from the northern side of the avoidance area and head south toward an exit pit. A second bore originating from the southern side of the avoidance area would head north and would use the same exit pit, effectively "meeting in the middle." This exit pit would become a vault at which the two segments of cable would be joined.

Bores are accomplished using a nontoxic bentonite clay drill slurry, or "mud," which serves several purposes: it lubricates the passage of the drill, cools and insulates the electronics in the drill head and rods, supports the walls of the bore to prevent collapse, and captures and transports excess soil ("cuttings") to the exit pits. Entry and exit pits would catch drill slurry, groundwater ingress, and any rainfall that may occur during drilling. Straw wattle would be installed around the entry pit as secondary containment, and a vacuum truck and/or tank would be available onsite for clearing the pits post-bore. Following the installation of the conduits, the bore pits would be filled and compacted or converted to vaults.– As further described in Section 5.9, Hazards and Hazardous Materials, APM HAZ-1 includes measures to test soils adjacent to hazardous materials sites prior to the start of construction activities and measures for proper containment and treatment of potentially hazardous materials should contact with these sites not be avoidable. Section 5.19, Utilities, summarizes active waste disposal locations and recycling centers located near the project area including, Alturas Sanitary Landfill (Alturas), Bass Hill Landfill (Susanville), Westwood Landfill (Westwood), Holdorff's Recycling Center (Alturas), Bigfoot Recycling (Susanville), and Bullseye Recycling (Susanville).

Depth of bores beneath roads would depend on permit requirements but would typically be located 4 feet below the lowest point of the crossing. Bores beneath water bodies would average between 4 and 10 feet but up to 15 feet below the water body bed. Bores beneath culverts would average 2 to 3 feet below the bed or approximately 4 feet below the water's surface. A potential "frac-out" can occur when there is an inadvertent return of drilling fluid.– Such a release would be a potential concern when directional boring would occur under sensitive habitats or waterways, as further described in Section 5.9, Hazards and

Hazardous Materials and Section 3.5.11.2, Liquid Waste.– ~~For bores beneath water bodies, F~~frac-out would be prevented via best management practices (BMPs) such as using a thicker bentonite solution, which both better supports the bore walls during the bore and is less likely to escape through a fissure into the water body. In addition, APM HAZ-3, would require preparation of an accidental release prevention plan that would establish monitoring for a potential frac-out such as visual inspection of the bore path at all times during drilling operations and personnel stationed upstream and downstream of the bore path to monitor water conditions when water is flowing.– Barriers can also be erected between the bore site and nearby sensitive resources prior to drilling, as appropriate to prevent potentially released material from reaching the resource.– The plan would also establish protocols for reporting and clean-up in the event of a frac-out.– Dewatering is not anticipated to be needed because conduit would be installed at a depth that is shallower than the groundwater table as further described in Section 3.5.9, Water Use and Dewatering. ~~Frac-outs are more common on large-diameter bores than on small-diameter installations such as this project.~~

A single crew can typically install 600 linear feet of conduit per day using the boring method in rock-free conditions and 300 linear feet of conduit per day for cobble or rocky conditions.

Bridge Crossings

Boring is the preferred method proposed for water body crossings. However, in areas where boring is not feasible, conduit would be attached to existing bridges. Prior to bridge work, the contractor would establish safe access points and traffic control measures to protect workers on the bridge. Anchors would be drilled and installed onto the side or underside of the bridge, and conduit would be placed into hangers at each of the anchor locations. Conduit would then be connected with couplers or would tie in at each end of the bridge. Alternatively, cable would be placed within existing conduit. Measures would be put into place to prevent construction debris (drillings, fasteners, etc.) from falling onto underlying roads or railroads, or into water bodies.

3.5.5.2 Conduit Proofing

Conduit must be prepared prior to fiber optic cable insertion through a process called proofing. Proofing removes blockages or debris and enables the fiber optic cable to be inserted more smoothly, reducing potential damage to the cable. In some areas, major conduit blockages may require excavating the conduit and cutting and replacing the blocked section. Proofing also involves pulling a mandrel (a small metal or wooden device) through the conduit on a line to clear debris. Once the conduit is proved, a pull and splice crew would pull in the fiber optic cable from vault locations.

3.5.5.3 Fiber Optic Cable Blowing and Pulling

Typically, fiber optic cable is installed through a combination of pulling and blowing it through conduit via existing vaults. Cable may be pulled unidirectionally (e.g., from one vault to another in sequence) or bidirectionally (e.g., from a central vault to two other vaults in opposite directions). The method would be chosen based on site-specific variables related to the section of cable being pulled. To reduce friction

between the cable and the conduit, a non-toxic, mineral-based lubricant may be applied to the conduit interior and the cable itself.

Cable blowing is an alternative technique of fiber optic cable installation involving use of a "blowing machine." This machine, consisting of a trailer-mounted compressor and 3-foot-by-2-foot blower, is placed at a vault at the beginning or middle of the cable segment to be installed. The machine uses compressed air to blow the cable through the conduit. A lubricant may be applied to the inside of the conduit via a sponge prior to cable installation.

3.5.5.4 Ancillary Facility Construction

In-Line Amplifiers

In order to support wireless signal transmittal, three ILAs would be constructed along the running line to serve as points of interconnection for local service providers. Each would consist of a prefabricated concrete or steel regeneration hut erected on a concrete pad. Vegetation clearing and minor grading may be required to level the site for the concrete slab, and soil stabilization would be achieved via track walking or plate compaction. ILAs would be placed on private property. ILAs are currently planned to be located on properties in Herlong (0.78 acre), Spanish Springs (0.12 acre), and Alturas (0.25 acre), California. Electrical power would be supplied to each ILA by local carriers and backed up by batteries and/or an emergency generator. The huts would not be manned but would be visited periodically to check on equipment and service parts. On such visits, maintenance workers would park on existing roadways.

Vaults

Vaults would be spaced approximately every 2,500 to 3,500 feet along the running line, for a total of approximately 410 vaults. Vaults would be approximately 30 inches by 48 inches and would be installed in sets of three. The dimensions of each three-vault excavation area would be 15 feet long by 3 feet wide by ~~x~~ 3 feet deep. The excavation area would be backfilled and compacted. Additional excavation space may be needed at splice locations or when transitioning from one installation method to another. As described in ~~s~~Section 3.5.11.1, Solid Waste,~~,~~ it is assumed that construction would result in up to 400 cubic yards of spoils related to the displacement of soil for installation of the vaults; however, soil would be balanced onsite wherever possible.~~–~~ Splice boxes (i.e., small, rectangular plastic or HDPE enclosures) would be installed within the vaults to hold wire connections. Vaults would be covered by a secure hatch laid flush with the ground.

Line Markers

Line markers, which would be co-located with the vaults along the running line, are 4-foot-tall, flexible fiberglass posts used to mark the location of the buried conduit.~~–~~ The marker posts would be placed above the buried conduit, or can be offset as necessary to avoid sensitive resources or topographical limitations (e.g., rocks). Markers would be placed, to the extent possible, in unvegetated areas.

3.5.6 Public Safety and Traffic Control

3.5.6.1 Public Safety and Traffic Control

Emergency and evacuation access would be maintained throughout construction of the project, and no full roadway closures would be required. However, the applicant may require partial lane closures for installation of the running line in several locations. In these areas, the applicant would implement traffic control procedures required by Caltrans' encroachment permit that are described in further detail in Section 3.10, Anticipated Permits and Approvals.

Rarely, short sections of a trench may remain open overnight, such as in vault locations where work must continue into the next day. In these instances, appropriate safety measures, such as installation of barricades or trench covers, would be implemented. No trenches would be left uncovered overnight. In areas identified as sensitive habitat, all trenches would be inspected prior to being covered and again prior to backfilling or permanently covering to prevent wildlife entrapment.

3.5.6.2 Security

The project would add security lighting associated with the ILAs. This lighting would be similar to that of existing surrounding properties. Nighttime lighting would be limited to low-wattage, outdoor security lighting. All lighting would be shielded and directed downward.

No project component would be able to be accessed by the public. The majority of the project consists of buried fiber optic line, which is intrinsically safe from vandalism or tampering by members of the public. Temporary materials staging yards would be fenced and locked or otherwise secured (e.g., via onsite security or monitored cameras, alarms, etc.) for the duration of use. Vault covers and regeneration huts would be locked and made tamper-proof.

3.5.7 Dust, Erosion, and Runoff Controls

The applicant would be required to obtain construction permits from responsible agencies, including Caltrans, USFS, BLM. Project construction activities would be needed to meet the requirements outlined in Attachment A of the California Construction General Permit, such as preparation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would detail measures to prevent fugitive dust, erosion, and runoff, such as preservation of existing vegetation where feasible; using BMPs such as installation of silt fences, straw bales, wattles, or sand bags to stabilize sediments and control erosion; applying water to loose sediments to reduce fugitive dust and wind erosion; and covering stockpiled sediment during transport or temporary storage. Attachment A of the California Construction General Permit also specifies good site management procedures for construction materials, waste management, vehicle storage and maintenance, and landscape materials, and includes requirements for non-stormwater management, erosion control, sediment controls, run-on and run-off controls, and BMP inspection, maintenance, and repair. During construction, contractors would adhere to requirements and BMPs outlined in these permits and plans. Additional details are described in Section 5.3, Air Quality, and Section 5.10, Hydrology and Water Quality.

3.5.8 Invasive Plants

Table 3-~~4~~ 5 lists the invasive plant species documented in the biological resources study area (BRSA) ~~BRSA~~ during botanical surveys in 2019 and their statuses according to state agencies that track invasive species. Stantec did not observe invasive plants considered noxious by the U.S. Department of Agriculture (USDA) in the BRSA.

Table 3-5

~~Table 3-4~~5: Invasive Plants Documented in the Biological Resources Survey Area

Scientific Name	Common Name	Origin	Family	CAL-IPC/CDFA /ODA/NDA[1]
Acroptilon repens	Russian knapweed	non-native (invasive)	Asteraceae	Moderate/Noxious/List B/Noxious
Agrostis stolonifera	redtop	non-native	Poaceae	Limited/-/-/-
Alopecurus pratensis	meadow foxtail	non-native	Poaceae	Watch/-/-/-
Bassia hyssopifolia	five horn bassia	non-native (invasive)	Chenopodiaceae	Limited/-/-/-
Briza maxima	rattlesnake grass	non-native (invasive)	Poaceae	Limited/-/-/-
Bromus hordeaceus	soft chess	non-native (invasive)	Poaceae	Limited/-/-/-
Bromus japonicus	hairy chess	non-native (invasive)	Poaceae	Limited/-/-/-
Bromus tectorum	downy chess	non-native (invasive)	Poaceae	High/-/-/-
Carduus acanthoides	plumeless thistle	-	Asteraceae	Limited/Noxious/List A/-
Centaurea diffusa	diffuse knapweed	-	Asteraceae	Moderate/Noxious/List B/Noxious
Centaurea solstitialis	yellow starthistle	non-native (invasive)	Asteraceae	High/Noxious/List B/Noxious
Centaurea stoebe ssp. *micranthos*	spotted knapweed	non-native (invasive)	Asteraceae	High/Noxious/List B/-
Cirsium arvense	Canada thistle	non-native (invasive)	Asteraceae	Moderate/Noxious/List B/Noxious
Cirsium vulgare	bullthistle	non-native (invasive)	Asteraceae	Moderate/Noxious/List B/-
Conium maculatum	poison hemlock	non-native (invasive)	Apiaceae	Moderate/-/List B/Noxious
Cynoglossum officinale	hound's tongue	non-native (invasive)	Boraginaceae	Moderate/-/List B/Noxious
Dactylis glomerata	orchardgrass	non-native (invasive)	Poaceae	Limited/-/-/-

Scientific Name	Common Name	Origin	Family	CAL-IPC/CDFA /ODA/NDA[1]
Descurainia sophia	herb sophia	non-native (invasive)	Brassicaceae	Limited/-/-/-
Dipsacus fullonum	wild teasel	non-native (invasive)	Dipsacaceae	Moderate/-/-/-
Elaeagnus angustifolia	Russian olive	non-native (invasive)	Elaeagnaceae	Moderate/-/-/-
Elymus caput-medusae[3]	medusa head	non-native	Poaceae	High/Noxious/List B/Noxious
Erodium cicutarium	coastal heron's bill	non-native (invasive)	Geraniaceae	Limited/-/-/-
Euphorbia virgata	leafy spurge	non-native	Euphorbiaceae	High/Noxious/-/-
Festuca arundinacea	reed fescue	non-native (invasive)	Poaceae	Moderate/-/-/-
Festuca myuros	rattail sixweeks grass	non-native (invasive)	Poaceae	Moderate/-/-/-
Halogeton glomeratus	halogeton	non-native (invasive)	Chenopodiaceae	Moderate/Noxious/List B
Holcus lanatus	common velvetgrass	non-native (invasive)	Poaceae	Moderate/-/-/-
Hordeum murinum	foxtail barley	non-native (invasive)	Poaceae	Moderate/-/-/-
Isatis tinctoria	dyers woad	non-native (invasive)	Brassicaceae	Moderate/Noxious/List B/Noxious
Kochia scoparia	Kochia	non-native (invasive)	Chenopodiaceae	Limited/-/List B/-
Lepidium chalepense	lens-podded hoary cress	non-native	Brassicaceae	Moderate/Noxious/List B/-
Lepidium draba[2]	whitetop	non-native (invasive)	Brassicaceae	Moderate/Noxious/List B/Noxious
Lepidium latifolium	perennial pepperweed	non-native (invasive)	Brassicaceae	High/Noxious/List B/Noxious
Linaria dalmatica ssp. *dalmatica*	Dalmatian toadflax	-	Plantaginaceae	Moderate/Noxious/List B/Noxious
Marrubium vulgare	white horehound	non-native (invasive)	Lamiaceae	Limited/-/-/-
Onopordum acanthium ssp. *acanthium*	Scottish thistle	non-native (invasive)	Asteraceae	High/Noxious/List B/Noxious
Plantago lanceolata	ribwort	non-native (invasive)	Plantaginaceae	Limited/-/-/-
Poa pratensis ssp. *pratensis*	Kentucky blue grass	non-native (invasive)	Poaceae	Limited/-/-/-

Scientific Name	Common Name	Origin	Family	CAL-IPC/CDFA /ODA/NDA[1]
Polypogon monspeliensis	rabbitsfoot grass	non-native (invasive)	Poaceae	Limited/-/-/-
Robinia pseudoacacia	black locust	non-native (invasive)	Fabaceae	Limited/-/-/-
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	Rosaceae	High/-/List B/-
Rumex acetosella	sheep sorrel	non-native (invasive)	Polygonaceae	Moderate/-/-/-
Rumex crispus	curly dock	non-native (invasive)	Polygonaceae	Limited/-/-/-
Salsola tragus	R~~r~~ussian thistle	non-native (invasive)	Chenopodiaceae	Limited/Noxious/-/-
Salvia aethiopis	M~~m~~editerranean sage	non-native (invasive)	Lamiaceae	Limited/Noxious/List B/Noxious
Tribulus terrestris	puncture vine	non-native (invasive)	Zygophyllaceae	Limited/Noxious/List B/Noxious
Trifolium hirtum	rose clover	Non-native (invasive)	Fabaceae	Limited/-/-/-
Ventenata dubia	ventenata grass	non-native	Poaceae	Watch/-/List B/-
Verbascum thapsus	woolly mullein	non-native (invasive)	Scrophulariaceae	Limited/-/-/-

[1]**Invasive/Noxious Status**
California Invasive Plant Council (Cal-IPC)
High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate: These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
Watch: These species are not currently invasive in California. An assessment has found them to be a high risk for becoming invasive in the future

California Department of Food and Agriculture (CDFA)
Noxious=Listed as a noxious weed under Section 4500

Oregon Department of Agriculture (ODA)
A List: A weed of known economic importance which occurs in the state in small enough infestations to make eradication or containment possible; or is not known to occur, but its presence in neighboring states make future occurrence in Oregon seem imminent.
B List: A weed of economic ~~importance~~importance, which is regionally abundant, but which may have limited distribution in some counties.

Nevada Department of Agriculture (NDA)
Noxious= Listed as a noxious weed

[2]*Cardaria draba* under the NDA Noxious Weed list.
[3]*Taeniatherum caput-medusae* under the ODA and NDA Noxious Weed list.

3.5.9 Water Use and Dewatering

Approximately ~~18~~12,000 gallons of water would be used each day for dust control and fire response during construction, assuming three construction spreads working concurrently. Each construction spread would have a 2,000-gallon water truck that would be refilled ~~1~~one to ~~2~~two times per day.~~–~~ This amount equals approximately ~~2~~1.8~~.7~~ million gallons over the 6-month construction period. Water would be obtained from local municipal sources via existing water rights. Dewatering is not anticipated to be needed because conduit would be installed at a depth that is shallower than the groundwater table. In addition, approximately 500 gallons of water per day and per drill would be used. Since up to four bore crews are anticipated to be mobilized during construction, it is estimated that a maximum of 2,000 gallons of water per day would be used for boring activities as further described in Section 3.5.11.2, Liquid Waste. –Table 3-6 outlines construction water use.

Table 3-6~~Table 3-6~~: Water Use During Construction

Water Need	Water Conveyance and Amount	Number of Construction Spreads	Total Water Use
Dust control and fire response	2,000-gal water truck refilled twice per day	3	12,000 gal per day
Boring	500 gal per drill rig	3 (4 ~~(~~crews)	2,000 gal per day
Grand Total			14,000 gal per day

Note:
gal = gallon
Source: Zayo 2020

3.5.10 Hazardous Materials and Management

3.5.10.1 Hazardous Materials

Temporary construction activities associated with the project would involve the transport and use of gasoline, diesel fuel, hydraulic fuel, solvents, and oils typically associated with operation of construction equipment and vehicles. These chemicals would be used and stored on the project site during construction, as well as transported along public roadways. Federal, state, and local laws governing the hauling, storage, and transport of these and other hazardous materials and spill response are discussed in Section 5.9.2, Regulatory Setting, and would be required for the storage and transport of hazardous materials for the project. Non-toxic, non-hazardous bentonite drilling fluid would be used for directional boring and a mineral-based, non-toxic, non-hazardous lubricant would be used for conduit proofing. Operation of the project would not involve the routine transport, use, or disposal of hazardous materials. As further described in Section 3.5.5.1, Conduit Installation, and Section 5.9, Hazards, Hazardous Materials, and Public Safety, construction workers would be trained to test soils adjacent to hazardous materials sites prior to the start of construction activities and would implement measures for proper containment and treatment of potentially hazardous materials should contact with these sites not be

avoidable.– Should any hazardous soil be encountered during construction, such material would be disposed of properly at an approved hazardous waste disposal facility in California such as the Kettleman Hills Facility in Kettleman City, CaliforniaA.

3.5.10.2 Hazardous Materials Management

Temporary construction activities associated with the project would involve the transport and use of gasoline, diesel fuel, hydraulic fuel, solvents, and oils of types and in amounts typically associated with operation of construction equipment and vehicles. Bentonite drilling fluid is not considered a hazardous material. Hazardous materials management during construction would be outlined in a Hazardous Materials ~~Release Prevention~~Management Plan (APM HAZ-1), SWPPP, and ~~Spill Prevention, Countermeasure, and Control (SPCC) Plan~~ a Surface Spill and Hydrofracture Contingency Plan. Additional details are provided in Section 5.9, Hazards, Hazardous Materials, and Public Safety.

The Hazardous Materials Management ~~Release Prevention~~ Plan would identify control measures to prevent the release of hazardous materials, as well as a detailed action plan to respond to an incidental spill in compliance with all local, state, and federal regulations relating to the handling of hazardous materials. Specific measures of this plan would include the following:

- Site-specific buffers to be used if work occurs adjacent to any hazardous sites and if not possible, remediation or containment efforts to be taken if construction activities would go through a hazardous site
- Testing of soils near known hazards materials sites prior to the start of construction activities
- Emergency response and reporting procedures
- Proper disposal of potentially hazardous materials
- Containment of spills from construction equipment and vehicles

Under Attachment A of the California Construction General Permit, the applicant would also be required to prepare a SWPPP, which would further detail hazardous materials management, dewatering procedures, and spill prevention and response. Contents of the SWPPP are outlined in Section 3.5.7, Dust, Erosion, and Runoff Controls.

To minimize the potential for spills or leaks to enter waterbodies or sensitive habitats adjacent to work areas, ~~the applicant will prepare a SPCC Plan. t~~T the plan would contain measures such as the following:

- Maintenance and inspection of all construction vehicles
- Refueling and parking restrictions to prevent fuel from entering adjacent waterbodies
- Specifications for the availability of spill containment and response equipment
- Designation of responsibilities and communication and reporting procedures in the event of a spill

- Spill response procedures

3.5.11 Waste Generation and Management

3.5.11.1 Solid Waste

Construction activities would generate ~~a certain amount~~20 pounds per day of non-hazardous solid waste related to~~. Items such as~~ cable trimmings, package materials, and construction debris ~~would necessitate proper handling and disposal methods. The volume of waste generated is expected to be minimal for this project, and w~~Waste materials would be properly disposed of in one of the landfills or recycling centers along the project route. Section 5.19, Utilities, summarizes active waste disposal locations and recycling centers located near the project area including~~,~~ Alturas Sanitary Landfill, Bass Hill Landfill, Westwood Landfill, Holdorff's Recycling Center, Bigfoot Recycling, and Bullseye Recycling.~~–~~ Dumpsters for construction waste would be provided at materials storage yards for temporary storage prior to transport to a licensed local waste management or recycling facility.~~– It is assumed that c~~Construction would result in up to 400 cubic yards of spoils, total, mostly related to the displacement of soil for installation of the vaults.

3.5.11.2 Liquid Waste

As described in Section 3.5.9, Water Use and Dewatering, approximately 500 gallons of water per day would be used during boring~~,~~ per drill, of which 200 gallons would be recovered as liquid waste. Since up to four bore crews are anticipated to be mobilized during construction, it is estimated that a maximum of 2,000 gallons of water per day would be used for boring activities, of which up to 800 gallons would be recovered as waste. Most liquid waste associated with construction of the project would occur in the form of bentonite (clay-based) drilling fluid, which is not considered a hazardous material and therefore would not require special disposal procedures. At each bore location, any excess drilling fluid that seeps from the bore hole would be captured in exit pits and siphoned into a holding tank to be reused or properly disposed.~~– of.~~

Non-toxic drilling fluid could harm aquatic habitats if released into waterbodies. Accidental spills would be minimized through the implementation of a SWPPP (APM HYDRO-1). See Section 5.10, Hydrology and Water Quality, for further detail. To minimize the potential for an accidental release of bentonite drilling fluid caused by a fracture in the rock underlying the water body (an event known as a "frac-out"), an Accidental Release Prevention Plan (APM HAZ-3) would be prepared. Measures in this plan would include the following:

- Visual inspection of the bore path at all times during drilling operations
- Personnel stationed upstream and downstream of the bore path to monitor water conditions, when water is flowing
- Specifications for availability of containment and cleanup equipment in the event of a frac-out

- Designation of responsibilities, communication protocols, and reporting procedures in the event of a frac-out

3.5.12 Fire Prevention and Response

Per APM FIRE-1, ~~T~~the applicant would prepare a Fire Protection Plan~~–~~ prior to construction that would detail fire prevention and response measures such as the following:

- Identification of daily site-specific risk conditions
- The tools and equipment needed on vehicles and to be on hand at sites
- Reiteration of fire prevention and safety considerations during tailboard meetings
- Daily monitoring of the red-flag warning system with appropriate restrictions on types and levels of permissible activity
- Coordination procedures with federal and local fire officials
- Crew training, including fire safety practices and restrictions
- Method(s) for verifying that all Plan protocols and requirements are being followed

Details on fire risk, prevention, and response can be found in Section 5.20, Wildfire.

3.6 CONSTRUCTION, WORKFORCE, EQUIPMENT, TRAFFIC, AND SCHEDULE

3.6.1 Construction Workforce

The number of construction workers present on the running line would vary each day. ~~At the peak of construction, approximately 48 construction workers~~Construction activities would occur simultaneously across three construction spreads or locations.~~–~~ It is assumed that each construction spread would have the ability to mobilize a crew for plowing in, open trenching, directional boring, bridge attachments, or blowing/splicing.~~–~~ Therefore, the environmental analysis and associated construction modeling assumes ~~,~~ ~~or about eight~~up to eleven crews of six people (or a maximum of 66 construction workers)~~,~~ ~~–~~ may be working at various locations at the same time.~~would be located across various construction locations simultaneously.~~ ~~–~~ Onsite construction workers would be supplemented by construction foremen, construction managers, and trailer-based administrative personnel, maintenance and cleaning staff, and security guards.

3.6.2 Construction Equipment

Equipment would be operating 10 hours per day, 5 days per week. Table 3-~~5~~ ~~6~~7 summarizes construction equipment that would be used, assuming ~~approximately eight~~up to eleven crews would be constructing segments of the project simultaneously.

Table 3-~~7~~3 ~~5~~6~~7~~: Construction Equipment and Usage Factors

~~Phase Name~~Construction Method	Equipment Type[1]	Equipment Number	Horsepower	Load Factor	Work Days[2]
Plowing In (3 crews operating simultaneously)	Crawler Tractors	3	212	0.43	139
	Excavators	6	158	0.38	
	Off-Highway Trucks	3	402	0.38	
	Tractors/Loaders/Backhoes	3	97	0.37	
Open Trenching (2 crews)	Excavators	4	158	0.38	39
	Tractors/Loaders/Backhoes	4	97	0.37	
Directional Boring (4 crews)	Bore/Drill Rigs	4	221	0.5	150
	Tractors/Loaders/Backhoes	4	97	0.37	
Bridge Attachments (1 crew)	Excavators	1	158	0.38	150
Blowing/Splicing (1 crew)	Air Compressors	6	78	0.48	102

Notes:
[1] all equipment is diesel-powered
[2] work days may occur simultaneously and overlap throughout construction because it is assumed that each construction spread would have the ability to mobilize a crew for plowing in, open trenching, directional boring, bridge attachments, or blowing/splicing.

3.6.3 Construction Traffic

The influx of construction vehicles and workers' personal vehicles associated with the project would cause a temporary and short-term increase in traffic surrounding work areas within the US 395 right-of-way. This temporary traffic volume increase would be spread out over the entire project alignment, and the increased traffic levels during peak construction would remain within acceptable limits in the context of road capacities and level of service (LOS). Traffic on US 395 may be temporarily affected by the slower movements and larger turning radii of construction trucks entering and exiting the highway, and the region would temporarily experience increases in vehicle-trip generation as a result of project construction, which would vary based on the construction activity, location, equipment needs, and other factors. However, once construction is completed, construction-related traffic would cease, and vehicle miles traveled levels would return to pre-project conditions. An estimate of construction vehicle trips is included in Table 3-~~6~~8~~7~~.

Table 3-~~83-687~~: Construction Vehicle Trips

~~Phase Name~~Construction Method	Vehicle Category	Truck Trips/Day[1]	One-Way Trip Length (miles)	Daily Miles Traveled
Plowing In	HHDT	6	30	180
	LHDT2	18	30	540
Open Trenching	LHDT2	12	30	360
Directional Boring	HHDT	16	30	480
	LHDT2	16	30	480
Bridge Attachments	HHDT	4	30	120
	LHDT2	4	30	120
Blowing/Splicing	LHDT2	12	30	360

Notes:

[1] Truck trips represent trucks traveling to and from the project site.

HHDT = heavy heavy duty truck

LHDT2 = light heavy duty truck 2

Emergency access routes would be maintained throughout project construction. Construction vehicles and equipment are anticipated to access project construction areas by using existing roadways and work would generally occur within the roadway right-of-way. Construction vehicles and equipment are expected to be staged or parked within project area rights-of-way, approved temporary construction easements, or alongside access roads. During and after construction, roads would continue to operate at the same acceptable LOS, with similar travel speeds and no capacity deficiencies.

3.6.4 Construction Schedule

The duration of construction activity would be approximately 6 months and is anticipated to begin in spring 2022. Construction crews would typically work 8- to 10-hour days, 5 days per week during daylight hours. Saturday work may be required in some areas, as needed, but approval would be obtained from the appropriate regulatory agency in advance of the work. No work is anticipated to be conducted on national holidays and no work would be conducted at night or during Red Flag conditions.– As outlined in Section 5.4, Biological Resources, the applicant would follow seasonal restriction work windows for special status species.– Depending on location, ~~and~~ construction activities would need to avoid the wet season, which is typically ~~in~~ the winter and spring months.

Based on the proposed schedule, up to ~~six~~ eleven crews would be working concurrently along the running line. During construction, various activities would be occurring simultaneously, including conduit plowing, trenching, cable blowing or pulling, splicing, marker pole installation, and site cleanup and restoration. Work phases would be staggered such that cable installation crews would follow conduit installation crews and site cleanup and restoration crews would follow marker pole crews. Staging areas and materials storage yards would be intermittently active as crews move through each work location.

3.7 POST-CONSTRUCTION

3.7.1 Configuring and Testing

As described in Section 3.8, Operation and Maintenance, project infrastructure would be configured, tested, and monitored remotely from the applicant's system operations headquarters in Tulsa, Oklahoma. Routine maintenance checks would be performed by local contractors or applicant staff, as appropriate. Maintenance staff would access project infrastructure via existing roads. Routine maintenance activities would include checking aboveground infrastructure and stopping to open vault hatches.

3.7.2 Landscaping

~~Landscaping, Demobilization, and Site Restoration~~

~~Construction activities and sequencing would occur such that cable would be laid, backfilled, compacted, and restored in a single pass, leaving no disturbed ground, open trenches, or loose sediments in each work area. Each work area would be restored to pre-project topography immediately following cable installation. No changes to existing drainage patterns are anticipated, and no permanent erosion control measures would be used. Revegetation would occur naturally, and no seeding is anticipated to be required.~~ Construction-related track-out would be removed from public roads via a street sweeper or by manually sweeping. No new landscaping would be required, but any private property such as fencing, landscaping, or driveways that is damaged during construction would be restored or compensated in coordination with the property owner. No additional landscaping is proposed surrounding ILAs or ancillary features.

3.7.3 Demobilization

Construction debris would be loaded onto vehicles at the end of each work day and temporarily stored at materials staging yards or hauled directly to local waste management or recycling centers. Staging areas and materials storage yards would become inactive and demobilized as work progresses beyond them. Staging areas in the right-of-way that are being decommissioned would be cleaned of debris and fluid drips and lightly recontoured or recompacted if necessary. Materials, equipment, vehicles, and trailers would be removed from materials staging yards along with construction debris, trash, and construction-related signage. Yards would be cleaned, swept, and lightly recontoured or recompacted if necessary. If fencing were erected as part of the project, the applicant would coordinate its removal or preservation with the property owner.

3.7.4 Site Restoration

Construction activities and sequencing would occur such that cable would be laid, backfilled, compacted, and restored in a single pass, leaving no disturbed ground, open trenches, or loose sediments in each work area. Each work area would be restored to pre-project topography immediately following cable

installation per APM BIO-5. No changes to existing drainage patterns are anticipated, and no permanent erosion control measures would be used.

3.8 OPERATION AND MAINTENANCE

Operation and maintenance activities would be implemented along the project running line over the life of the project as permitted by lead and responsible agencies. The utility owner would be required to apply for, obtain, and maintain an encroachment permit from Caltrans to operate and maintain the telecommunications facilities within the state highway right-of-way.

Project infrastructure would be monitored remotely from the applicant's system operations headquarters in Tulsa, Oklahoma. Routine maintenance checks would be performed by local contractors or applicant staff, as appropriate. Maintenance staff would access project infrastructure via existing roads. Routine maintenance activities would include checking aboveground infrastructure and stopping to open vault hatches. Ground disturbance during routine maintenance would typically be minor if it occurred at all and would center upon repair of cable conduits in the event of storm damage, landslides, or other emergencies. Most maintenance activities would take place within the right-of-way. The appropriate agencies would be contacted if maintenance activities are required outside previously authorized areas. No long-term vegetation disturbance, trimming, or maintenance is anticipated to be required during operations.

3.9 DECOMMISSIONING

During decommissioning, underground project infrastructure would be abandoned in place. Above-ground components, such as regeneration huts, would be excavated to below ground level, disconnected from the underground conduit, backfilled, ~~and~~ compacted, and restored to pre-construction conditions. Concrete pads would be broken up and removed. Vaults would be cleared of equipment, backfilled, and compacted or paved, as appropriate. Marker poles would be removed or abandoned in place.

3.10 ANTICIPATED PERMITS AND APPROVALS

3.10.1 Anticipated Permits and Approvals

Table 3-~~7~~ 98 summarizes anticipated and approvals that would be required as part of the project. All permits are in progress ~~at the time of writing~~as of December 2020.

Table 3-~~93-7~~98: Anticipated Permits and Approvals

Regulatory Agency	Authorizing Action/Permits	Status
Federal		
U.S. Army Corps of Engineers District: Northern California/Sacramento	Individual or Nationwide Section 404 Permit (Clean Water Act)	In progress

Regulatory Agency	Authorizing Action/Permits	Status
Bureau of Land Management District: Burns, Oregon	Special Use Permit for Operation and Maintenance, Temporary Use Permit for Construction, Cultural Resources Use Permit, Plan of Development National Environmental Policy Act, Right-of-Way Easement ~~Lead~~ ~~National Historic Preservation Act Section 106 Consultation~~	In progress
U.S. Bureau of Indian Affairs District: Pacific Region/Sacramento	Right-of-Way Easement	In progress
U.S. Forest Service District: Fremont-Winema and Humboldt-Toiyabe National Forest Field Offices	Right-of-Way Grant, Temporary Use Permit, Cultural Resources Use Permit National Environmental Policy Act ~~Lead~~	In progress
U.S. Fish and~~&~~ Wildlife Service District: Sacramento	Informal Section 7 Consultation/No effect determination (Endangered Species Act)	In progress
~~National Environmental Policy Act lead or State Historic Preservation Office~~		
State		
California Public Utilities Commission District: Sacramento/San Francisco	California Environmental Quality Act, Modification to applicant's CPCN~~t Lead~~	In progress
California Department of Transportation District: 2 (Redding)	Encroachment Permit	In progress
California State Lands Commission District: Sacramento	Right-of-Way Easement	In progress
California State Historic Preservation Office District: Sacramento	National Historic Preservation Act Section 106 Finding of Effect Concurrence ~~Impact Concurrence~~	In progress
California Department of Fish and Wildlife District: Northern California (Redding)	Streambed Alteration 1601 Permit Section 2081 Permit	In progress
California Regional Water Quality Control Boards (Lahontan and Central Valley)/State Water Board District: Lahontan and Central Valley	Section 401 Water Quality Certification Authorization of Discharge of Fill into Waters of the State National Pollutant Discharge Elimination Service Permit	In progress
~~California State Historic Preservation Office~~	~~National Historic Preservation Act Section 106 Consultation~~	

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Regulatory Agency	Authorizing Action/Permits	Status
Local		
County of Modoc	~~Encroachment Permit,~~ Grading Permit	In progress
County of Lassen	Encroachment Permit, Grading Permit	In progress
County of Sierra	~~Encroachment Permit,~~ Grading Permit	In progress
City of Alturas	Encroachment Permit, Grading Permit	In progress

~~Note:~~

Note:
CPCN = Certificate of Public Convenience and Necessity

3.10.2 Rights-of-Way or Easement Applications

The applicant would apply for an encroachment permit from Caltrans for construction within US 395 right-of-way~~,~~ and from Lassen County and the City of Alturas~~, Modoc, and Sierra Counties~~ for construction within local ~~county~~ road rights-of-way. Easements will be obtained for underlying rights, including the California State Lands Commission, BLM, USFS, and the Bureau of Indian Affairs. Leases would be obtained for components located on private land.

3.11 APPLICANT PROPOSED MEASURES

3.11.1 Applicant Proposed Measures

APM AES-1: Staging Area Maintenance

All project sites will be maintained in a clean and orderly state. Where commercially feasible and physically possible, construction staging areas will be located away from public view. Upon completion of project construction, project staging and temporary work areas will be returned to pre-project conditions~~, normal wear and tear accepted~~.

APM AES-2: Aboveground Ancillary Equipment

All aboveground ancillary equipment, including the ILA huts and line markers shall use paints, materials, and finishes that are earth-toned in color.

APM AG-1: Coordination with Agricultural Landowners

For the staging area located on prime farmland, or any subsequent staging areas identified that would need to be located on prime farmland, unique farmland, or farmland of local or statewide importance, prior to construction, the applicant will provide written notice to the landowner(s) outlining construction

activities, preliminary schedule, and estimated timing of restoration efforts. The applicant will coordinate with the landowner(s) to minimize construction-related disruptions to seasonal farming operations. Following construction in the applicable area, the applicant will revegetate temporarily impacted agricultural areas.

APM AIR-1: Fugitive Dust Control

The Applicant shall implement measures to control fugitive dust in compliance with all local air district(s) standards. Dust control measures shall include the following at a minimum:

- All exposed surfaces with the potential of dust-generating shall be watered or covered with coarse rock to reduce the potential for airborne dust from leaving the site.
- The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Cover all haul trucks entering/leaving the site and trim their loads as necessary.
- Use wet power vacuum street sweepers to sweep all paved access road, parking areas, staging areas, and public roads adjacent to project sites on a daily basis (at minimum) during construction. The use of dry power sweeping is prohibited.
- All trucks and equipment, including their tires, shall be washed off prior to leaving project sites.
- Apply gravel or non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at project sites.
- Water and/or cover soil stockpiles daily.
- Vegetative ground cover shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- All vehicle speeds shall be limited to fifteen (15) miles per hour or less on unpaved areas.
- Implement dust monitoring in compliance with the standards of the local air district.
- Halt construction during any periods when wind speeds are in excess of 50 mph.–

APM AIR-2: Low-emission Vehicles

All off-road construction equipment, except for air compressors, shall meet EPA Tier 4 Final off-road emissions standards (or equivalent) to reduce NOX emissions during construction activities.

APM BIO-1: Worker Environmental Awareness Training

The applicant will prepare and implement a Worker Environmental Awareness Training to be presented by the Lead Biologist to all onsite personnel prior to commencing construction (i.e., staging vehicles or equipment), and, subsequently, all new workers. The applicant will document training for all workers. Training will instruct personnel how to identify sensitive resources and the locations of sensitive resource exclusion areas. Personnel will be instructed about roles and responsibilities in protecting sensitive biological resources, including penalties for violations, conducting sweeps for wildlife around equipment and vehicles before moving them, parking and driving only in approved areas, and stopping work immediately and notifying onsite biological and cultural monitors if sensitive resources are encountered. Handling and relocating special status species by non-approved personnel will be prohibited. APMs shall be implemented during construction by the applicant or the applicant's designee.

~~The applicant will prepare and implement a Worker Environmental Awareness Training to be presented by the Lead Biologist to all onsite personnel prior to commencing construction (i.e., staging vehicles or equipment). Training will instruct personnel how to identify sensitive resources and the locations of sensitive resource exclusion areas. Personnel will be instructed about roles and responsibilities in protecting sensitive biological resources, including penalties for violations, conducting sweeps for wildlife around equipment and vehicles before moving them, parking and driving only in approved areas, and stopping work immediately and notifying onsite biological and cultural monitors if sensitive resources are encountered. Handling and relocating special status species by non-approved personnel will be prohibited.~~

APM BIO-2: Work Areas and Access Routes

The applicant will confine all equipment, vehicles, and construction work within approved access routes and work areas to the maximum extent possible. Approved access routes and work areas will be clearly marked using stakes, flagging, or other means. No work, staging, or ground disturbance will occur outside of approved access routes and work areas. If off-pavement or gravel vehicle travel is required, the applicant will instruct personnel to use a spotter. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-3: Speed Limit

Vehicles and equipment will adhere to a 15 miles per hour speed limit on all unpaved project access roads. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-4: General Project Area Use

The applicant will prohibit trash dumping, firearms, hunting, open fires (those not required for project activities), smoking outside designated areas, and pets in project areas.– APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-5: Site Restoration

Ground disturbance and vegetation clearing will be limited to the minimum extent practicable. Open excavations will be backfilled and recompacted after installation of the conduit with native soils. At locations where the excavated material is not adequate to use for backfilling, construction crews will remove it from the project workspaces and dispose of it at a location that meets California Department of Transportation's (Caltrans') requirements. In areas where backfill material must be imported (e.g., areas were excavated material has high rock content), the applicant will obtain soils from weed-free, commercially available sources approved by Caltrans. After completion of project activities, all temporarily disturbed work areas will be restored to their pre-construction contours, and areas of exposed soils in natural habitats will either be stabilized or re-seeded with native seed mixes appropriate to the habitat type. Non-natural habitats, such as agricultural, urban, and barren areas, are maintained by landowners and will not be revegetated except as described in lease or access agreements.

In coordination with the Bureau of Land Management ~~BLM~~ and U.S. Forest Service~~USFS~~, the applicant will prepare and implement a Revegetation and Restoration Plan (RRP) with detailed specifications for restoring all temporarily disturbed native vegetation in accordance with project permits. The RRP will discuss mitigation and restoration methods where vegetation is temporarily or permanently impacted. The RRP will include plants and seed mixes that will be used for temporary and permanent revegetation, plant container sizes and appropriate planting methods, and maintenance requirements, including irrigation needs and design plans that will show the specific plant species and planting locations. APMs shall be implemented during construction by the applicant or the applicant's designee.

~~Ground disturbance and vegetation clearing will be limited to the minimum extent practicable. Open excavations will be backfilled and recompacted after installation of the conduit with native soils . At locations where the excavated material is not adequate to use for backfilling, construction crews will remove it from the project workspaces and dispose of it at a location that meets California Department of Transportation's (Caltrans') requirements. In areas where backfill material must be imported (e.g., areas were excavated material has high rock content), the applicant will obtain soils from commercially available sources approved by Caltrans. After completion of project activities, all temporarily disturbed work areas will be restored to their pre-construction contours, and areas of exposed soils in natural habitats will either be re-seeded with native seed mixes or stabilized. Non-natural habitats, such as agricultural, urban, and barren areas, are maintained by landowners and will not be revegetated.~~

~~The applicant will prepare and implement a Revegetation and Restoration Plan (RRP) with detailed specifications for restoring all temporarily disturbed native vegetation in accordance with project permits. The RRP will discuss mitigation and restoration methods where vegetation is temporarily or permanently impacted. The RRP will include plants and seed mixes that will be used for temporary and permanent revegetation, plant container sizes and appropriate planting methods, and maintenance requirements, including irrigation needs and design plans that will show the specific plant species and planting locations.~~

APM BIO-6: Invasive Species

To prevent the introduction and spread of invasive plants during construction, the applicant will ensure that all construction equipment and vehicles are cleaned inside and out prior to arrival onsite. Incoming vehicles and wheeled or tracked equipment will be inspected by a biological monitor prior to deployment onsite. If invasive plants are observed within a work area, vehicles, equipment, and personnel clothing and boots will be swept or cleaned prior to deployment to a different construction site. If application of herbicides is needed to control designated noxious weeds, only approved weed control contractors would apply herbicides in adherence with all state and manufacturer's guidelines. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-7: Biological Monitors

The applicant will appoint a Lead Biologist and one or more biological monitors. Biological monitors will be onsite daily during project activities to minimize incidental impacts to sensitive biological resources by conducting pre-construction surveys and sweeps, ensuring compliance with all avoidance and minimization measures, demarcating sensitive biological resource exclusion areas (e.g., active den or nest, special status plant occurrence, sensitive natural community, or wetland or waterway boundary) with flagging or signage, and ensuring that flagging and signage remain intact and that project activities remain outside of exclusion areas. If a special status species is encountered in the work areas, construction in the immediate vicinity will cease, and personnel will notify the biological monitors. Biological monitors will establish a buffer to restrict work near the species. If it is a wildlife species, a biological monitor will observe the behavioral responses of the species to the work occurring in proximity to them. The biological monitors will halt work if a wildlife species exhibits an adverse response to nearby project work activities. The species will be allowed to move offsite on their own. If the species is in danger of injury or does not leave the work area, the biological monitor will relocate the species to adjacent suitable habitat, if feasible, and with prior approval from the California Department of Fish and Wildlife and/or the U.S. Fish and Wildlife Service or will consult with agencies for further guidance. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-8: Protection of Botanical Resources

The locations of the special status plants will be marked as avoidance areas both in the field; using flagging, staking, fencing, or similar devices; and on construction plans. Locations shall be incorporated into project siting, design, avoidance, and management in accordance with APM BIO-7 and APM BIO-9. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-9: Special Status Plant Impacts

If additional special status plants are identified during pre-construction surveys and complete avoidance is not practicable~~,~~, a conservation and restoration plan shall be implemented in coordination with a qualified biologist~~–~~ where the project would directly or indirectly affect more than 10 percent of a local occurrence by either number of plants or extent of occupied habitat. The conservation plan may consist of but is not limited to purchase of mitigation credits at a regional conservation bank; collection and subsequent

planting of seed or incorporating seed from native nursery into seed mix used for revegetation efforts; stockpiling, storing, and replacing topsoil containing the local seed bank; or other measures determined to be practicable based on the species and site conditions. For some species and site conditions, conservation bank credits and seed may not be available, or conservation efforts may not have a reasonable probability of success or could result in detrimental effects on existing special status plant populations. In these cases, as determined by a qualified biologist, no conservation measures will be required. APMs shall be implemented during construction by the applicant or the applicant's designee.

~~If additional special status plants are identified during pre-construction surveys, complete avoidance is not practicable, and the project would directly or indirectly affect more than 10 percent of a local occurrence by either number of plants or extent of occupied habitat, a conservation and restoration plan shall be implemented in coordination with a qualified biologist. The conservation plan may consist of but is not limited to purchase of mitigation credits at a regional conservation bank; collection and subsequent planting of seed or incorporating seed from native nursery into seed mix used for revegetation efforts; stockpiling, storing, and replacing topsoil containing the local seed bank; or other measures determined practicable based on the species and site conditions. For some species and site conditions, conservation bank credits and seed may not be available, or conservation efforts may not have a reasonable probability of success or could result in detrimental effects on existing special status plant populations. In these cases, as determined by a qualified biologist, no conservation measures will be required.~~

APM BIO-10: Work Timing

Construction activities will be restricted to daylight hours.– APMs shall be implemented during construction by the applicant or the applicant's designee.

~~Construction activities will be restricted to daylight hours . If nighttime work is required, lights will be shielded and/or pointed downward and into work areas, and not into surrounding areas.~~

APM BIO-11: Nesting Birds

Biological monitors will conduct pre-construction nesting bird surveys during the nesting season (February 1 to August 31) within 100 feet of the construction workspaces for non-raptors, and within 0.5 mile for raptors. Pre-construction surveys for non-raptors would be valid for 1 week, and surveys for raptors would be valid for the full season if conducted after May 1. Biological monitors will establish exclusionary buffers, in which no activity would be permitted, around active nests, which would be 100 feet for non-raptors and 0.25 mile for raptors, increasing to 0.5 mile for bald eagles, golden eagles, ferruginous hawks (*Buteo regalis*), Swainson's hawks (*Buteo swainsoni*), and prairie falcons (*Falco mexicanus*) when nests are in line-of-sight. In addition, no vegetation clearing ~~would~~will be permitted within 300 feet of an active non-raptor nest. Project activities will be prohibited within the exclusionary buffer until the nest fledged or failed. To the extent possible, work will be scheduled during the non-breeding season or in construction spreads that lack active nests. APMs shall be implemented during construction by the applicant or the applicant's designee.

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APM BIO-12: Greater Sage-grouse Leks

The applicant will avoid construction activities within 4 miles of active or pending greater sage-grouse leks from 6 PM to 9 AM between March 1 and May 15. [Additional information pending further consultation with BLM]. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-13: Open Excavations

The applicant will backfill or cover open excavations at the end of each workday to avoid wildlife entrapment. When this is not possible, the applicant will install escape ramps overnight to allow wildlife to escape (2:1 slope ratio or less), and a biological monitor will inspect excavations that remained open overnight before construction activities begin each morning. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-14: Minimum Bore Depth

The applicant will impose minimum bore depths when boring under sensitive natural communities and special status plant occurrences to prevent root damage and plant mortality. The minimum depths are 30 feet for tree-dominated, 23 feet for shrub-dominated, and 15 feet for herbaceous-dominated communities or occurrences. APMs shall be implemented during construction by the applicant or the applicant's designee.

APM BIO-15: Wetland Impacts

The applicant will avoid directly impacting wetlands; however, for wetlands that cannot be avoided, or for which direct, temporary disturbance (e.g., trenching) outweighs the risk of effort-intensive avoidance techniques (e.g., boring) the applicant will implement the following measures:

- Construction activities within wetlands will be performed during the dry season (e.g., generally May through September) while the features are dry.
- If construction activities are required in perennially wet features or if features do not fully dry due to local weather conditions, the applicant will prepare a Dewatering Plan prior to construction to outline dewatering procedures. This plan will be prepared as part of the Stormwater Pollution

Prevention Plan (SWPPP) and its contents will be dictated by the applicant's Construction General Permit. For example, the Dewatering Plan shall include provisions for screening pump intake pipes to exclude fish; relocating fish from areas proposed for dewatering; and measures to control and monitor water quality during dewatering activities.~~a coffer dam with appropriately sized bypass pumps (if needed) will be installed to dewater the area prior to the activities.~~

- As currently designed, only temporary impacts on wetlands are anticipated, and the applicant will restore temporarily disturbed areas to pre-construction conditions and according to applicable permit requirements. If changes during final design could result in permanent impacts that cannot be avoided, the applicant will compensate for the permanent loss of wetlands at a ratio of at least 1:1; however, final compensation ratios will be based on site-specific information and will be determined through coordination with the applicable resource agencies as part of the permitting processes for the project.

APM BIO-16: ~~Vegetation Clearing for Birds and~~ Bats

Prior to attaching cables to bridges, a biological monitor will conduct pre-construction surveys for roosting bats, and if present, the construction activities will not be permitted on the bridge until a biological monitor determines that the roost is no longer active. APMs shall be implemented during construction by the applicant or the applicant's designee.

~~If vegetation clearing occurs during nesting bird season (February 1 to August 30) biological monitors will establish a 300-foot no-vegetation clearing buffer around active nests that shall remain in place until the nest has fledged or failed. Prior to tree removal, a biological monitor will conduct pre-construction surveys for roosting bats, and if present, the trees will not be removed until a biological monitor determines that the roost is no longer active.~~

APM CR-1: Avoid and Minimize Impacts to Significant or Potentially Significant Cultural Resources.

Wherever feasible, the applicant shall avoid or minimize impacts to archaeological resources, regardless of its CRHR or NRHP eligibility status. This includes siting all ground-disturbing activities outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the alignment. Because many archaeological resources are made up of subsurface deposits, features, and artifacts, it may not be possible to recognize all potentially significant attributes of archaeological resources during construction activities. There is the potential for making unanticipated discoveries of previously unidentified remains at archaeological sites that could require efforts to reassess their CRHR or NRHP eligibility. Avoiding impacts or minimizing the area of an archaeological resource that could be affected during construction protects the resource and reduces the possibility that unanticipated discoveries would cause project delays. The applicant will avoid or minimize impacts to archaeological resources by redesign, reroute, and implementation of avoidance procedures (i.e., establishing environmentally sensitive areas), or other protective measures within or immediately adjacent to construction activities. Additionally, impacts will be avoided or minimized through the following measures prior to construction.

APM CR-2: Design Avoidance.

Where sites cannot be avoided, the proponent shall use directional bore and place the fiber optic line conduit under archaeological sites to a depth of at minimum 2 meters or 1 meter below known maximum depth of cultural resources.

APM CR-3: Conduct a Pre-Construction Worker Education Awareness Program.

The Worker Environmental Awareness Program (WEAP) will be provided for all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker will be involved in ground-disturbing activities without having participated in the WEAP.

APM CR-4: Evaluate the Significance of All Cultural Resources That Cannot Be Avoided.

Archaeological resources, buildings, and structures that cannot be avoided and that have not been evaluated to determine their eligibility for listing in the CRHR will be evaluated to determine their historical significance. Evaluation studies shall be conducted and documented as per applicable laws, regulations, and guidelines and in accordance with professional standards. Evaluation of properties will take into account attributes of each property that could contribute to its historical significance. Evaluation procedures will be consistent with applicable laws, regulations, and guidelines and in accordance with professional standards as follows.

APM CR-5: Implement Measures to Minimize Impacts to Significant Archaeological Sites.

Prior to construction and during construction, the following measures will be implemented by the applicant to minimize unavoidable impacts to significant archaeological sites.

- To the extent practical, all activities shall minimize ground surface disturbance within the bounds of unique archaeological sites or historical resources.
- Portions of significant archaeological sites, historical resources, or historic properties that can be avoided will be protected as environmentally sensitive areas and will remain undisturbed by construction activities.
- Monitoring by qualified professionals and/or Native Americans to ensure that impacts to sites are minimized will be carried out at each affected cultural resource for the period during which construction activities pose a potential threat to the site and for as long as there is the potential to encounter unanticipated cultural or human remains.
- Additional archaeological studies will be carried out at appropriate sites to ascertain if project facilities could be located on a portion of a site and cause the least amount of disturbance to significant cultural materials.

- If impacts to significant archaeological (NRHP- or CRHR-eligible) sites cannot be avoided, archaeological data recovery will be carried out in the portions of affected significant sites that will be impacted.
- A data recovery plan will be prepared, reviewed by the appropriate agencies, and then implemented to recover an adequate sample of cultural remains that can be used to address important research questions per CRHR Criterion 4 or NRHP Criterion D eligibility. Archaeological data recovery will involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; and preparation of a scientific technical report that describes the methods and results of the data recovery program.
- Reports of any excavations at archaeological sites will be filed with the appropriate Information Center of the California Historical Resources Information System.

APM CR-6: Implement measures to minimize impacts to significant buildings and structures. Prior to construction and during construction, the applicant will implement the following measures to minimize unavoidable impacts to significant buildings and structures.

- Locate proposed project facilities to minimize effects on significant buildings or structures.
- If impacts to significant buildings or structures cannot be avoided, document significant architectural and engineering attributes consistent with National Park Service Historic American Buildings Survey/Historic American Engineering Record documentation standards.
- File reports and other documentation with the National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System

APM CR-7: Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.

During construction, it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the applicant will prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan shall detail the following elements:

- Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area
- Worker and supervisor response procedures to be followed in the event of an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions regarding the potential significance of any find
- Identification of persons authorized to stop or redirect work that could affect the discovery and their on-call contact information

- Provide for monitoring of construction activities in archaeologically sensitive areas
- Stipulate a minimum radius around any discovery within which work will be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate
- Procedures for identifying and evaluating the historical significance of any find
- Procedures for consulting Native Americans in the process of identification and evaluation of significance of discoveries involving Native American cultural materials
- Procedures to be followed for the treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans.

APM CR-8: Inadvertent Discovery of Human Remains.

Any human remains discovered during project activities in California will be protected in accordance with current state law, specifically Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill (AB) 2641. The provisions of the Native American Graves and Repatriation Act (NAGPRA) are applicable when Native American human remains are found on federal land (Bureau of Land Management land in California and Nevada). The discovery of human remains will be treated as defined in the Construction Monitoring and Unanticipated Cultural Resources Discovery Plan. Archaeological excavations at sites will not, if at all possible, inappropriately disturb or remove human remains. Native Americans will be consulted to develop a protocol to be followed if human remains are encountered during any project activity, as required by state and federal law. When human remains are discovered, work must cease around the find and the area will be flagged off to protect the discovery from disturbance (AB 2641 and NAGPRA). The discovery must be reported immediately to the County Coroner (Section 7050.5 of the Health and Safety Code). If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission (NAHC), which then designates a Native American Most Likely Descendant (MLD) for the project (Section 5097.98 of the Public Resources Code [PRC]). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641). NAGPRA also requires notification of the appropriate Native American group and certification by that group before the ground-disturbing activity is resumed.

APM PALEO-1: Paleontological Mitigation Plan–

Prior to construction, a Paleontological Mitigation Plan (PMP) ~~should~~ shall be prepared. It ~~should~~shall provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification

procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. Any subsurface bones or potential fossils that are unearthed during construction ~~should~~shall be evaluated by a professional paleontologist as described in the PMP.

APM PALEO-2: Paleontological Resource Monitoring

Construction excavations which disturb geologic units with moderate paleontological potential (Potential Fossil Yield Classification [PFYC] 3) ~~should~~ shall be monitored by a professional paleontologist in conjunction with worker environmental training to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. The timing and frequency (e.g., part-time vs. full-time) of monitoring ~~should~~shall be determined by the professional paleontologist based on initial field observations and excavation activities.– Additionally, excavations which disturb geologic units with unknown paleontological potential (PFYC U) ~~should~~ shall be initially monitored in order to inspect for the presence of sensitive sediments and any resources that may be harbored within. In the event that a highly fossiliferous facies are encountered, full time monitoring ~~should~~ shall occur until excavations within that facies are complete. Worker environmental training of construction personnel is recommended for excavations impacting sedimentary geological units with low paleontological potential (PFYC 2).– No additional measures are recommended for excavations impacting volcanic and plutonic rock units with very low paleontological potential (PFYC 1) or very low to low potential (PFYC 2 to 1). As summary of the recommended monitoring procedures for each of the mile posts is provided in Appendix B of the Paleontological Report.–

APM GHG-1: Greenhouse Gas Emissions Greenhouse Gas Emissions Reduction During Construction

The following measures shall be implemented as a best management practices to minimize greenhouse gas emissions from all construction sites wherever possible:

- If suitable park-and-ride facilities are available in the project vicinity, construction workers shall be encouraged to carpool to the job site.
- The applicant shall develop a carpool program to the job site, if feasible.
- On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications.
- Tires shall be checked and re-inflated at regular intervals.
- The contractor shall use line power instead of diesel generators at all construction sites where line power is available.
- The contractor shall maintain construction equipment per manufacturing specifications.

APM HAZ-1: ~~Prepare and Implement a Hazardous Materials Release Prevention Plan and a Spill Prevention, Countermeasure, and Controls~~Hazardous Materials Management Plan

Zayo, or its chosen consultant, shall create and implement a hazardous materials~~ release prevention plan and Spill Prevention, Countermeasure, and Control (SPCC) plan to reduce the risk of sensitive receptors from being exposed to hazards due to the handling of hazardous materials during construction.~~management plan to govern the use and handling of hazardous materials during construction, maintenance, and repairs of the lines. The~~se~~ plan~~s~~ shall identify control measures to prevent the release of hazardous materials, as well as a detailed action plan to respond to an incidental spill in compliance with all local, state, and federal regulations relating to the handling of hazardous materials. These plans would also be implemented in ~~conjuncture~~ conjunction with the Stormwater Pollution and Prevention Plan (SWPPP). All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the bore hold or otherwise used during the project shall be disposed of at a permitted landfill, other appropriately permitted site, or at an upland site approved in advance by the Regional Water Quality Control Board. All stationary diesel generators associated with the project (e.g., for light plants, In-Line Amplifiers [ILAs]) shall have secondary containment. Specific measures of these plans shall include the following:

- Site-specific buffers to be used if work occurs adjacent to any hazardous sites, and if not possible, remediation or containment efforts to be taken if construction activities will go through a hazardous site
- Testing of soils near known hazardous materials sites prior to the start of construction activities
- Emergency response and reporting procedures
- Proper disposal of potentially hazardous materials
- Containment of spills from construction equipment and vehicles (also required through the preparation of a SPCC), which would include the following:
    - Maintenance and inspection of all construction vehicles
    - Refueling and parking restrictions to prevent fuel from entering adjacent waterbodies
    - Specifications for the availability of spill containment and response equipment
    - Designation of responsibilities and communication and reporting procedures in the event of a spill
    - Spill response procedures

APM HAZ-2: Worker Environmental Awareness Program for Hazardous Materials

The purpose of a Worker Environmental Awareness Program (WEAP) is to educate personnel (i.e., construction workers) about the existing onsite and surrounding resources and the measures required to protect these resources and to avoid potential hazards within these sites. The WEAP, developed by Zayo or their chosen consultant, shall include materials and information on potential hazards resulting from

construction within the project area, and applicable precautions personnel ~~should~~shall take to reduce potential impacts.–

The WEAP presentation shall be given to all personnel who may be exposed to site hazards. The WEAP presentation shall be given prior to the start of construction and as necessary throughout the life of the project as new personnel arrive onsite. Zayo and the contractor are responsible for ensuring that all onsite personnel attend the WEAP presentation, receive a summary handout, and sign a training attendance acknowledgement form to indicate that the contents of the program are understood and to provide proof of attendance. Each participant of the WEAP presentation shall be responsible for maintaining their copy of the WEAP reference materials and making sure that other onsite personnel are complying with the recommended precautions. The contractor shall keep the sign in sheet onsite and submit copies of the WEAP sign-in sheet to Zayo's Project Manager, who shall keep it on file at their offices.–

The following information and implementation steps shall be prepared, presented, and executed prior to and during construction to prevent exposure and raise awareness of potential site hazards:–

Inform personnel about potentially hazardous sites within the project areas and how to identify hazardous materials sites. Signs of potential contamination within soils could include stained soils, discolored or oily water, previously unknown underground storage tanks, etc. Work ~~should~~shall be stopped if any of these signs are identified within the project area, and APM HAZ-1 ~~should~~shall be implemented before work shall resume.–

APM HAZ-3: Surface Spill and Hydrofracture Contingency Plan~~Accidental Release Prevention Plan~~

To minimize the potential for an accidental release of bentonite drilling fluid caused by a fracture in the rock underlying the water body (an event known as a "frac-out"), an Surface Spill and Hydrofracture Contingency Plan ~~Accidental Release Prevention Plan will~~ shall be prepared. The ~~A~~applicant shall monitor drill mud pressure and volume at all times during drilling to ensure that hydrofracture or other loss of drill muds has not occurred. In the event of sudden loss in pressure or volume, the a~~A~~pplicant shall take appropriate steps according to the Surface Spill and Hydrofracture Contingency Plan to ensure that drilling muds are not discharged to sensitive habitat. Measures in this plan would include the following:

- Visual inspection of the bore path at all times during drilling operations
- Personnel stationed upstream and downstream of the bore path to monitor water conditions when water is flowing,
- When boring is necessary adjacent to wetlands and waterways, the bore rigs would be set back 15 ft beyond the top of waterway banks or a minimum of 75 ft from the edge of wetland vegetation,–
- Specifications for availability of containment and cleanup equipment in the event of a frac-out
- Designation of responsibilities, communication protocols, and reporting procedures in the event of a frac-out

APM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (SWPPP)

The applicant will prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to prevent construction-related erosion, sediment runoff, and discharge of other pollutants into adjacent waterways and onto neighboring properties. Because project activities would result in ground disturbance of more than one (1) acre, the applicant will obtain coverage under the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (and as amended by 2010-0014-DWQ and 2012-006-DWQ). To obtain coverage under the permit, the applicant will develop and submit permit registration documents—including a Notice of Intent, SWPPP, risk assessment, site map, construction drawings, certification by a Legally Responsible Person, contractor contact information, and annual fee—to the State of California's Storm Water Multiple Application and Report Tracking System (SMARTS) database and obtain a Waste Discharger Identification (WDID) number prior to initiating construction activities.

The SWPPP shall outline implementation of best management practices (BMPs) for each activity that has the potential to impact neighboring properties or degrade surrounding water quality through erosion, sediment runoff, dewatering, and discharge of other pollutants. BMPs to be part of the project-specific SWPPP may include but are not limited to the following control measures.

- Implementing temporary erosion control measures (such as silt fences, staked straw bales and wattles, silt and sediment basins and traps, check dams, geofabric, sandbag dikes, grass buffer strips, high-infiltration substrates, grassy swales, and temporary revegetation or other ground cover) to control erosion from disturbed areas.
- Protecting drainage facilities in downstream offsite areas from sediment using BMPs acceptable to Modoc, Lassen, and Sierra counties and the Lahontan and Central Valley Regional Water Quality Control Boards.
- Protecting the quality of surface water from non-stormwater discharges such as equipment leaks, hazardous materials spills, and discharge of groundwater from dewatering operations.
- Restoring disturbed areas, after project construction is completed, unless otherwise requested by the landowner in agricultural land use areas.

Requirements of the SWPPP shall be coordinated with the requirements of any Section 401 Water Quality Certification issued for the project under the Clean Water Act and/or Streambed Alteration Agreement issued under Fish and Game Code Section 1602, as applicable.

APM REC-1: Coordination with BLM–

The Applicant will coordinate closely with the BLM Northern California District Office to communicate potential disruptions of trail access during project construction activities, including Shaffer Mountain Trail near Litchfield (Post Mile 77.3), Belfast Petroglyphs OHV Trail near Litchfield (Post Mile 93.4), Buckhorn Backcountry Byway (Post Mile 115.2), and California Historic Trail (Post Miles 21.9, 29.2, 29.5, 30.2, 31.1, 34, 42.8, 42.9, 43.1, 43.9, 50.6, 72.5, 76.4, 77.6). Signs advising recreational facility users of

construction activities and potential trail closures will be posted at access points to trails identified by BLM. Information on trail closures and any temporary displacement will be made available on the project website. The Applicant will document preconstruction conditions at the trail locations and will repair or replace facilities inadvertently damaged during construction activities.

APM TCR-1: Consultation

If necessary, the applicant will assist the California Public Utilities Commission CPUC in Assembly Bill (AB) 52 consultation with Native Americans regarding traditional cultural values that may be associated with archaeological resources. Archaeological or other cultural resources associated with the project may have cultural values ascribed to them by Native Americans. The applicant will assist the CPUC during consultation with Native Americans regarding evaluations of resources with Native American cultural remains.

APM TCR 2: Prepare Ethnographic Study on TCR

If necessary, the applicant will retain a professional ethnographic consultant to undertake a detailed recordation of any locations considered important to the tribe. The recordation will commence prior to construction and will include photographic documentation of pre- and post-construction conditions of any identified culturally sensitive location.

The information gathered as a result of field, interview, and research tasks will be compiled into a report that will be transmitted to the Tribe. The Tribe will have the right to submit the report to the California Historical Resources Information System. Detailed recordation of any ethnographic location in this manner will create a photographic and written record of the cultural resource prior to construction of the proposed project, resulting in partial compensation for project impacts.

APM TRA-1: Traffic Management Plan

Zayo will obtain any necessary transportation and encroachment permits from Caltrans and the local jurisdictions, as required, and will implement temporary traffic controls as required to prevent congestion or traffic hazards during construction. Construction activities that are in, along, or cross local roadways will follow best management practices (BMPs) and local jurisdictional encroachment permit requirements, such as traffic controls in the form of signs, cones, and flaggers, to minimize impacts on traffic and transportation in the project area. When working on state highways, Zayo will follow traffic control guidelines outlined in the California Manual on Uniform Traffic Control Devices.

APM UTL-1: Utility Company Coordination

The applicant shall notify all utility companies with utilities located within or crossing the project right-of-way to locate and mark existing underground utilities along the entire length of the project at least 14 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally as appropriate to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-party

utilities and underground excavations is less than 5 feet, the applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.

APM UTL-2: Recycling of Construction Materials

During construction activities, the contractor shall use recycling centers for materials that can be recycled, rather than hauling all materials to landfills. Materials that could be recycled may include plastics, paper, cans, and bottles. At each construction site, a designated container or vessel shall be set up at the beginning of construction activities with appropriate signage indicating where construction workers ~~should~~shall place recyclable materials.

APM FIRE-1: Construction Fire Prevention Plan

A project-specific Construction Fire Prevention Plan for– construction of the project shall be submitted for review to the California Public Utilities Commission (CPUC) and state and local fire agencies at least 90 days before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Plan reviewers shall also include federal, state, or local agencies with jurisdiction over areas where the project is located. The final Plan shall be approved by the CPUC at least 30 days prior to the initiation of construction activities. The Plan shall be fully implemented throughout the construction period and include the following at a minimum:

- The purpose and applicability of the Plan
- Responsibilities and duties
- Preparedness training and drills
- Procedures for fire reporting, response, and prevention that include:
    - Identification of daily site-specific risk conditions
    - The tools and equipment needed on vehicles and to be on hand at sites
    - Reiteration of fire prevention and safety considerations during tailboard meetings
    - Daily monitoring of the red-flag warning system with appropriate restrictions on types and levels of permissible activity
    - Coordination procedures with federal and local fire officials
    - Crew training, including fire safety practices and restrictions
    - Method(s) for verifying that all Plan protocols and requirements are being followed

A project Fire Marshal or similarly qualified position shall be established to enforce all provisions of the Construction Fire Prevention Plan as well as perform other duties related to fire detection, prevention, and suppression for the project. Construction activities shall be monitored to ensure implementation and effectiveness of the Plan.