Stantec

Memo

To:	Connie Chen California Public Utilities Commission	From:	Stantec Environmental Consulting, Inc.
		Date:	July 23, 2021

Reference: Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project

The project has been designed, sited, and microsited to avoid as many direct impacts to sensitive resources as possible. However, where avoidance of a resource is impossible to achieve via lateral movement of the running line, or where a lateral redesign to avoid a primary resource results in an impact to a secondary resource, avoidance will be accomplished via boring.

1 AQUATIC RESOURCE AVOIDANCE

No new or temporary watercourse crossings would be required during construction or operation of the project. Construction equipment would cross watercourses using existing bridges. For water crossings with existing bridges, cable would be installed on the bridge. In all locations where there are no bridges, aquatic features and associated riparian vegetation would be avoided via boring.

1.1 SITE PREPARATION

Work Area Delineation. Environmentally sensitive areas adjacent to bore work areas would be staked or identified as exclusion areas prior to construction, per APM BIO-2 (Work Areas and Access Routes) and APM CR-2 (Minimize Impacts to Significant Archaeological Sites). The proposed placement for entry and exit pits may be marked ahead of installation with washable spray paint.

Worker and Equipment Preparation. All workers onsite would undergo environmental training (APM BIO-1, CR-3, CR-7, PALEO-1, HAZ-2). All construction vehicles would be cleaned inside and out and inspected by a biological monitor for invasive weeds prior to deployment onsite (APM BIO-6). Construction would be observed by monitors at all times (APM BIO-7, CR-5, CR-7, PALEO-1) and preconstruction surveys would be undertaken prior to construction (APM BIO-11, BIO-16).

Vegetation Preparation. 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 per specifications in the project-specific Construction Fire Prevention Plan (APM FIRE-1). No vegetation clearing would take place within 300 feet of an active non-raptor nest (APM BIO-11). No grading, tree removal or trimming, or extensive vegetation removal is anticipated to be required for conduit installation. Dust control would be achieved via APM AIR-1 (Fugitive Dust Control).

Bore Pit Excavation. 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” (15 to 20 feet for short bores, up to 60 feet for large bores). Entry and exit pits would be set back from the edge of the riparian vegetation a minimum of 25 feet. The bore rigs themselves would be set back a minimum of 15 feet beyond the top of waterway banks or a minimum of 75 feet from the edge of wetland vegetation per APM HAZ-3.

Drilling Preparation. Once entrance and exit pits have been excavated and setup areas delineated and staked, the drill rig would be moved into position within the setup area. Accompanying the drill rig would be ancillary equipment such as a water truck or stationary water tank (to provide water for drilling slurry); a trailer

housing the fiber conduit spool; and a vacuum truck and/or tank for clearing the pits post-bore. This equipment would be staged within the temporary construction area (total width of 20 feet).

1.2 BORING

Boring and Conduit Pulling. Each directional bore begins 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 at an angle calculated to achieve its ultimate depth. 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. The minimum depth of the bore would be in compliance with requirements of the regulatory agencies and according to APM BIO-14 (Minimum Bore Depth). After the pilot hole has been bored, conduit (staged on a trailer or spool) is attached to the end of the drill string and is pulled back through the bore, exiting at the exit pit.

Drilling Slurry and *Frac-Out Prevention*. Bores are accomplished using a nontoxic bentonite clay drill slurry, or "mud," managed, stored, and transported according to the project-specific Frac-Out Plan (APM HAZ-3) and SWPPP (APM HYDRO-1). The frac-out plan would require visual inspection of the bore path at all times during boring and monitoring of water conditions upstream and downstream, and specify equipment and pit setbacks (as previously specified), containment and cleanup procedures, and responsibilities and communication procedures in the event of a frac-out. Straw wattle would be installed around the entry and exit pits as secondary containment (APM HAZ-1). Any excess drilling fluid or groundwater that collects in the pits would be siphoned into a holding tank to be reused or properly disposed of.

1.3 RESTORATION AND DEMOBILIZATION

Bores will be completed within a single day when possible. Where not possible, pits will be covered overnight and inspected for trapped wildlife prior to construction the following morning per APM BIO-13 (Open Excavations).

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, detailed in a project-specific Revegetation and Restoration Plan (APM BIO-5). 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. All trash and debris will be disposed of (APM HAZ-1, BIO-4) or recycled (APM UTIL-2).

2 TERRESTRIAL RESOURCE AVOIDANCE

Avoidance of discoveries of unanticipated cultural resources or human remains would be in accordance with APM CR-7 (Unanticipated Cultural Resources Discovery Plan) and APM CR-8 (Inadvertent Discovery of Human Remains). All cultural resources (APM CR-1) and populations of special status plants (APM BIO-8) would be avoided via boring. Boring procedures (including preparation, cleanup, and restoration) for terrestrial resource avoidance are identical to the procedures for aquatic resource avoidance. However, certain terrestrial resources may require the use of split bores.

Staging areas, materials storage yards, and in-line amplifier facilities would be sited to avoid all known cultural resources (APM CR-5) and rare plant populations; thus, these facilities would have no impact on cultural resources or rare plant populations.

Reference: **Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project**

2.1 SPLIT BORES

If the terrestrial resource is longer than the maximum allowable bore length (typically 750 feet), the bore would be split: one bore would originate from the northern side of the avoidance area and head south toward an exit pit, and a second bore originating from the southern side of the avoidance area would head north toward 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.

Bore depth and the location of entry and exit pits would be site-specific and dictated by the results of site testing. Each bore would be to a depth that would ensure complete avoidance of the resource. Entry and exit pit locations would be placed to the extent possible within gaps in the cultural site or plant population.

2.2 VAULTS

Where possible, vaults would be placed to avoid impacts to all resources. Vaults would not be placed within aquatic resources. Whenever available, bore pits would be converted to vaults to minimize ground disturbance.

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 3 feet deep. Vault 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.

Each vault location would receive a splice box, within which the two fiber cable ends would be joined. Once cables are joined, the remaining excavated vault area would be backfilled with native soil and compacted, leaving the splice box cover flush with the ground surface. Vaults are typically identified via a line marker.

3 WHERE DIRECT IMPACTS TO RESOURCES CANNOT BE AVOIDED

3.1 AQUATIC RESOURCES

As provided in the PEA, it is anticipated at this time that all direct impacts to aquatic resources will be avoided. If this is not possible to completely avoid all direct impacts , or where direct, temporary disturbance (e.g., trenching) outweighs the risk of effort-intensive avoidance techniques (e.g., boring; during consultation with CDFW, staff indicated a preference for trenching minor, dry watercourses rather than boring them, to eliminate the possibility of a frac-out). Locations of direct impacts would be identified through consultation with CDFW on a case-by-case basis. Temporary and permanent impacts would be mitigated via APM BIO-15 (Wetland Impacts) and through compliance with the project-specific Lake and Streambed Alteration Agreement, necessary Clean Water Act Section 404 permit and Section 401 Water Quality Certification.

3.2 SPECIAL STATUS PLANTS

It is anticipate at this time that all direct impacts to special status plant populations will be avoided. If this is not possible (e.g., during a split bore), impacts would be mitigated via a conservation and restoration plan (APM BIO-9) developed in consultation with CDFW, BLM, and USFS.

Reference: **Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project**

3.3 CULTURAL RESOURCES

Where complete avoidance is not possible for cultural resources (e.g., during a split bore), impacts would be mitigated via APM CR-5 (Minimize Impacts to Significant Archaeological Sites) and CR-6 (Minimize Impacts to Significant Buildings and Structures). APM CR-5 requires archaeological and tribal monitoring, data recovery (as dictated by BLM and Caltrans permits), and reporting. Currently, the project is not anticipated to impact any significant buildings or structures.

4 APPLICANT-PROPOSED MEASURES

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 BIO-1: Worker Environmental Awareness Training

Reference: Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project

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.

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-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 where 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 and U.S. Forest Service, 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.

Reference: **Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project**

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.

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 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.

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.

- 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: 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.

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 California Register of Historical Resources (CRHR) or National Register of Historic Places (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.

Reference: Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project

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) shall be prepared. It 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 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) 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 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) 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 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 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.
- Demolition debris shall be recycled for reuse to the extent feasible.
- 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: Hazardous Materials Management Plan

Zayo, or its chosen consultant, shall create and implement a hazardous materials management plan to govern the use and handling of hazardous materials during construction, maintenance, and repairs of the lines. The plan 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 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
- Development of a Lead Compliance Plan outlining procedures that will be implemented should aerially deposited lead be discovered
- 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
  - Secondary containment for stationary diesel generators
- 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 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 shall be stopped if any of these signs are identified within the project area, and APM HAZ-1 shall be implemented before work shall resume.

APM HAZ-3: Surface Spill and Hydrofracture Contingency 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 shall be prepared. The 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 applicant 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.

Reference: Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project

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

A Traffic Management Plan (TMP) shall be prepared to address heavy equipment and building material deliveries, potential street and/or lane closures, signing, lighting, and traffic control device placement. 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.

Reference: **Avoidance and Mitigation Strategies for Environmental Resources on the Prineville-to-Reno Fiber Optic Project**

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 30 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 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.