United States Department of Agriculture
Forest Service

United States Department of Interior
Bureau of Land Management – Bureau of Reclamation

STRATA Fiber Optic Cable Project

Environmental Assessment

Flaming Gorge/Vernal Ranger District, Ashley National Forest,

Uintah and Daggett Counties, Utah

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For More Information Contact:

LeAnn S. Colburn
Forest Environmental Coordinator and ID Team Leader
(435) 781-5163
lscolburn@fs.fed.us

or

Scott Bingham
Forest Engineer
(435) 781-5107
srbingham@fs.fes.us

Responsible Official
Jeff Schramm
Forest Supervisor
Ashley National Forest
355 North Vernal Avenue
Vernal, Utah 84078

This document and the supporting resource reports were prepared by Horrocks Engineers for the United States Forest Service, Bureau of Land Management, and Bureau of Reclamation.

Cover Image of Cart Creek Bridge, taken by Peter Steele on 10/4/2016

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Introduction

The USFA Forest Service (USFS), the Bureau of Land Management (BLM), and the Bureau of Reclamation (BOR) are proposing to authorize UBTA-UBET COMMUNICATONS, INC., DBA STRATA NETWORKS ("Strata") to install fiber optic conduit and cable along US-191 and US-44 from Vernal to Manila and Dutch John. These actions are proposed to be implemented on the Vernal Ranger District of the Ashley National Forest and also on small sections of BLM and BOR administered lands, as well as the Utah State Institutional Trust Land Administration (SITLA) and the Utah Department of Transportation (UDOT).

The USFS is the lead federal agency due to the majority of the project area being on UFSF-administered lands, and some of the other agencies have been invited to be cooperating agencies. The BLM, BOR, Uintah County and Daggett County have signed a cooperating agency agreement with the Forest Service and are part of the planning process.

The USDA Forest Service has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA), the Forest Plan, and other relevant federal and state laws and regulations. The purpose of an Environmental Assessment is to furnish enough site-specific information related to the environmental effects of the proposed action so that the Responsible Official can determine whether or not there are significant environmental impacts and if an Environmental Impact Statement is necessary. The NEPA process enables the Responsible Official to make decisions with an understanding of the proposal's environmental consequences and allows the USDA Forest Service to disclose to the public, the nature and potential consequences of proposed actions.

Proposed Project Location

The project area begins in Vernal, Utah and extends along US-191 and US-44 to Manila and Dutch John. The project area extends through the Ashley National Forest, which is under the jurisdiction of the USFS, as well as various small sections that are under the jurisdiction of the BLM, BOR, and SITLA. See Figure 1.

This project must be consistent with the Ashley Land and Resource Management Plan (Forest Plan). The Strata Fiber Optic Cable Project is located within several Management Areas (MAs). These MAs are described in Table 1 below.

Table 1. Ashley National Forest Management Areas Within The Project Area.

Management Area	Management Area Name	Forest Plan Page Number
b	Moderate Timber Production	IV-6; IV-48
e	Wildlife Habitat Emphasis	IV-7 to 8; IV-48
f	Dispersed Recreation Roaded	IV-7 to 8; IV-48
n	Range of resource uses and outputs. Commodity production modified for amenity production.	IV-10 to 11; IV-48
n_1	NRA Existing Situation	IV-10 to 11; IV-48
p	NRA Timber Emphasis	IV-12 to 13; IV-48
r	Wildlife	IV-12 to 13; IV-48

Special use permits for all MAs must be evaluated using the following criteria:

- There is a demonstrated public need;
- National Forest resources and programs will not be unacceptably damaged or impaired; and
- Private land is not available to accommodate the use (p. IV-48).

Management Areas listed above and located outside of the Flaming Gorge National Recreation Area have no restrictions with respect to special uses and the installation of utilities such as phone and cable lines, except for what is described above. However, much of the proposed route would fall within the Flaming Gorge National Recreation Area (MAs f, n, n1, p, and r) which has specific restrictions on the location of overhead utility lines.

Specific direction on improvements and utilities may be found in Appendix A of the Forest Plan. Specifically, the following is stated:

- B. Encourage utilization of resources where compatible with recreation. Uses which may be compatible are…..
    - (5) Use of NRA lands for rights-of-way, easement, or other improvements that are in the public interest (p. A-1);
- Esthetics
    - (10) Construct and maintain improvements to meet the public need. They should be esthetically pleasing and blend with or complement the surrounding area (p. A-10); and
- Special Land Uses
    - (3) Authorize special land uses only to meet demonstrated public needs, where the need cannot feasibly be met outside the NRA, and where foreseeable effects on other existing or potential uses and activities are acceptable…… (p. A-14).

Purpose and Need for the Proposal

The purpose of the project is to provide reliable high-speed internet service to the public school systems in Daggett County (with schools located in both Dutch John and Manila).

The project is needed because the project area is located in a remote section of Utah and is currently not served by reliable high-speed internet service. The Daggett County School District has public schools in both Manila and Dutch John which would benefit from access to reliable high-speed internet for public education purposes. Another objective of the project is to enable UDOT to install traffic monitoring stations in the future along both US-191 and US-44. UDOT is desirous of being able to better monitor traffic conditions and hazards in real-time, which would be facilitated by having fiber optic conduit throughout this remote area.

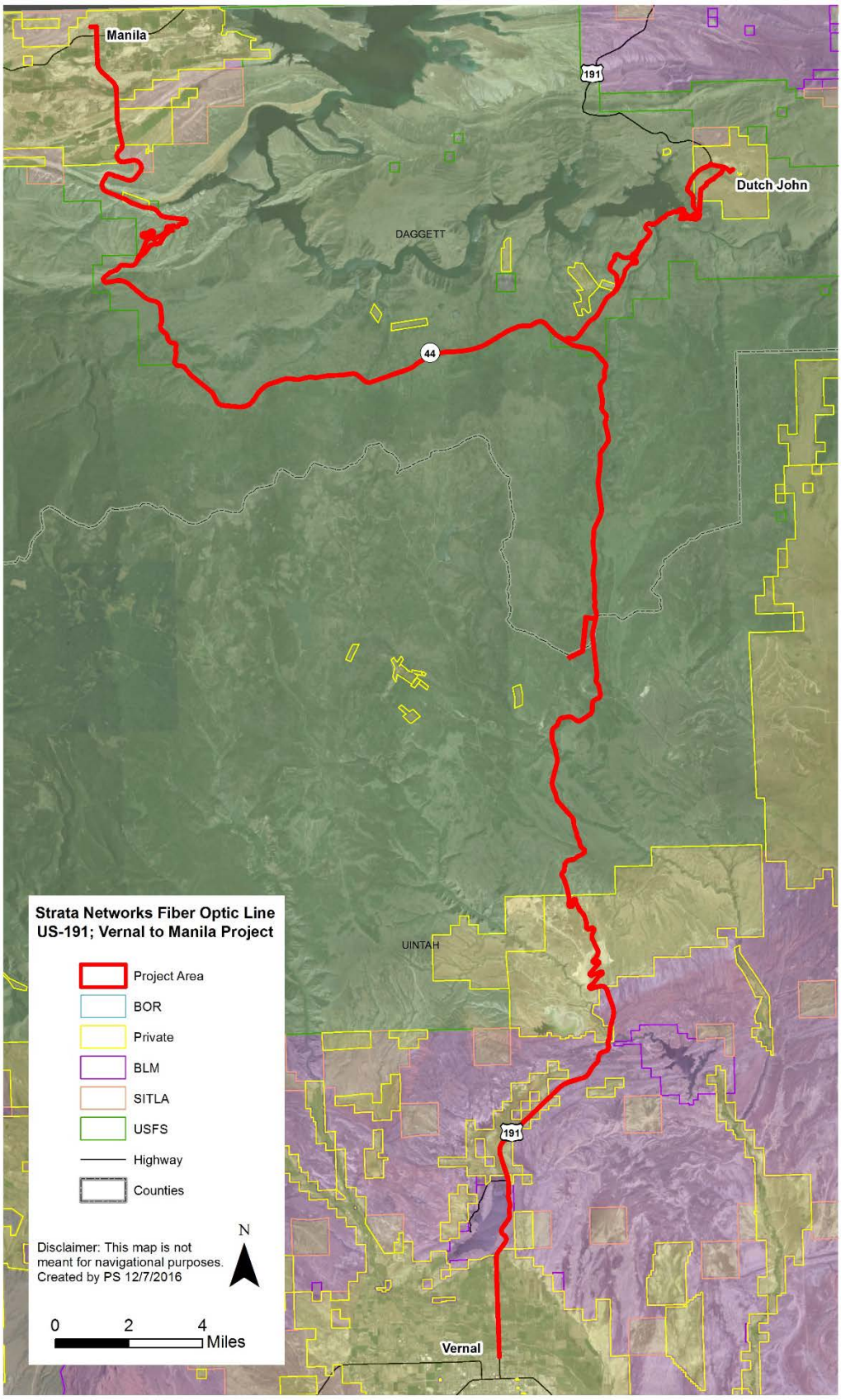

Figure 1. Vicinity map

Public Involvement and Tribal Consultation

The Council of Environmental Quality (CEQ) regulations (40 CFR 1506.6) direct agencies to involve the public in preparing and implementing their NEPA procedures. Public involvement and tribal consultation is essential for the Forest Service to develop a proposed action that meets the purpose and need for the project and is responsive to the concerns of the public. The public participation process also allows the Forest Service to disclose the nature and potential consequences of the proposed activities on National Forest System lands.

A notice entitled Opportunity to Comment, USDA-Forest Service, Ashley National Forest, Flaming Gorge-Vernal Ranger District, Uintah and Daggett Counties, was published in the Vernal Express on January 24, 2017 and on January 25, the 30-day official comment period began for the project. Project information was sent to the mailing matrix for the USFS, to those subscribers on Gov.Delivery for the project, and to Ute Indian Tribe on January 24, 2017 to 263 individuals and interested parties and five tribal members. The notice was also posted on the Ashley's internet web page and was listed in the Forest's Schedule of Proposed Actions (SOPA).

Notices were sent to the following individuals and agencies:

- Daggett County Commission
    - Clyde Slaugh
    - Jack Lytle
    - Karen Perry
- Deseret Generation and Transmissions Cooperative
- Duchesne County Commission
    - Ron Winterton
    - Greg Todd
    - Ken Burdick
- Sweetwater County Commission
    - Wally Johnson
    - Randall Wendling
    - John Kolb
    - Don Van Matre
    - Reid West
- Uintah County Commissioners
    - Mark Raymond
    - Michael McKee
    - Bill Stringer
- Utah Division of Water Quality
- Utah Division of Wildlife Resources, Northeastern Region
- Utah Division of Wildlife Resources
- Uintah County Public Lands Specialist
- USDI Bureau of Land Management, Vernal Field Office
- USDI Fish and Wildlife Service, Utah Field Office
- USDI Bureau of Reclamation
- Utah State Historic Preservation Office
- Kevin Mueller
- Keith and Taline Horrocks
- K.M. Neuschwander
- Ellen B. Reynolds

- Red Canyon Lodge Company
- Flaming Gorge Lodge
    - Craig Collett
- Cedar Springs Marina
- Ute Indian Tribe
    - Shaun Chapoose – Natural Resources
    - Robert Chapoose, Jr. – Fish and Wildlife
    - Reannin Tapoof – Business Committee
    - S. Elaine Willie – Environmental Coordinator
    - Betsy Chapoose – Director of Cultural Rights and Protection
    - Ute Agricultural Products – Cattle

Comments concerning the proposed project were accepted for 30 days following the publication of the notice in the newspaper. Only two comments were received, both of which were supportive of the project. No comments were received from the Ute Tribe.

Proposed Action and Alternatives

This section describes and compares the alternatives considered for the Strata Fiber Optic Cable project. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative, and providing a clear basis for choice among options for the decision maker and the public. The proposed action was developed at the onset of the project and is based on site-specific needs and preliminary issues. It was used during the scoping process and was provided to individuals, groups, and organizations through a formal scoping period to review and identify additional issues.

For this project, both the No Action Alternative and the Proposed Action Alternative were considered.

Proposed Action (Preferred)

To achieve the purpose and need discussed above, the following proposed action includes the issuance of the long-term (20 years) special use permit by the Forest Service to authorize the installation of the fiber optic cable on Forest Service system lands. In addition, permits would also be obtained from the BLM, BOR, and UDOT, as well as an easement from SITLA, for those areas of the project which are within their respective jurisdiction or control.

Project Description

This project would install fiber optic conduit along US-191 and US-44 from Vernal to Manila and Dutch John (approximately 75 miles of conduit) to be installed within the roadway right-of-way. The majority of the conduit would be buried in a trench approximately five (5) feet deep and 16 inches wide, using a cable plow for the installation of the conduit and a directional bore methodology to be utilized to cross under existing roadways and streams. Aerial installation using existing utility poles may potentially be utilized at various locations, most particularly at Grizzly Ridge and near the Flaming Gorge Dam. At the Flaming Gorge Dam itself, the cable would be conducted through existing utility corridors. The construction corridor would consist of no more than six (6) feet wide with staging areas not to exceed that width to be located in various locations along the route outside of environmentally sensitive areas.

Construction is anticipated to begin in May 2017, with the Dutch John spur being completed by the beginning of the school year and the Manila spur being completed as soon as possible thereafter.

All roads would be kept open during construction with at least one lane of travel, using flaggers or sign boards to maintain traffic flow.

Design Criteria

In order to minimize or eliminate environmental effects from this project, certain design criteria have been developed to accompany the proposed action. These design criteria are an integral part of the proposed action; without these criteria, there could be increased resource effects. The design criteria would be used in tandem with the proposed action and are as follows:

Wildlife:

1. There are three (3) goshawk nest territory sites associated with the project, which are all located in close association to Highway 191. No staging areas or stationary work concentration areas should be located in the following areas to protect potential active nests between *March to September 30:*
    - **East McKee** goshawk nest territory #211 is located approximately 0.2 miles east of US-191 nearly opposite of Forest Road 047. If this nest site is active during the construction phase, approximately ½ mile along US-191 on either side of the junction with FR047 should be avoided for equipment or work staging sites.
    - **Skull Creek** goshawk nest territory #109 is located on the South side of US-191 approximately 0.25 miles east of the Skull Creek Campground entrance road junction. Placement of equipment and work staging sites should be avoided for approximately 0.5 miles east of the Skull Creek Campground road junction along US-191 to avoid nest disturbances.
    - **Meadow Park** goshawk nest territory #118 is located near Cub Creek and Meadow Park on the south side of US-191. Placement of equipment and work staging areas should be avoided from Cub Creek Easterly for approximately 0.75 miles to avoid nest disturbances.

Hydrology:

2. Strata would use silt fences, wattles and other sediment control devices to prevent sedimentation of waterways.
4. If construction occurs in the bottom of a bar ditch or near the bottom at grades above 3%, wattles will installed to prevents erosion and sediment entering the riparian areas.
5. To prevent erosion and sedimentation, areas will be compacted post construction (if possible).
6. Wetlands and Riparian areas where boring will take place will be flagged prior to construction.
7. No heavy equipment would be allowed in wetland or riparian areas.
8. Refueling and maintenance of equipment should take place away hydrologic resources.
9. A spill kit should be on site when construction around hydrologic resources is taking place.

Archaeology:

10. The fiber optic route will be shifted as necessary within the road corridor to avoid cultural resource sites. In areas where cultural resource sites are within the road corridor, the fiber optic line will be placed within the highway road bed.
11. Strata will ensure that equipment, vehicles, and staging areas are not placed within cultural resources sites. An archaeologists will monitor construction activities in areas where National Register eligible cultural resource sites are within the road corridor. Cultural resource avoidance areas may be temporary flagged when deemed necessary by the Forest Archaeologist.

12. If archaeological or cultural resources are encountered or exposed during project activities, construction activities will cease within 100 feet of the discovery and the proponent and their contractors will contact the Forest and will follow the stipulations of the Forest Cultural Resource Inadvertent Discovery Plan.

Paleontology

13. If significant paleontological resources are encountered, whether or not a paleontological monitor is present, construction activities will be halted within 50 feet of the discovery area, and the Forest Service will be notified. Ground disturbing operations within the area of the discovery would not resume until authorization to proceed has been received from either the Forest Service or the permitted Paleontologist for this project.
14. A permitted paleontologist will periodically spot-check excavation areas, to watch for and properly salvage any significant paleontological resources that are encountered within the following areas:
    - T2S R22E Sections 5, 6, 7, 8, and 18;
    - T1S R22E Sections 17, 19, 20, 30, and 31; and
    - T2N R20E Sections 8, 16, 17, 19, and 20.
15. A permitted paleontologist will be present during excavation activities, to watch for and properly recover any significant paleontological resources that are encountered within T2N R20E Sections 5, 6, and 7.

Engineering:

16. All construction equipment shall be pressure washed before entering National Forest System lands. The removal of mud and debris from treds, tracks and undercarriage, with emphasis on axles, frame, cross-members, motor mounts, and underneath steps, running boards, and front bumper/brushguard assemblies will be required. The purpose is to reduce or eliminate the transportation of noxious weeds, which is required by Federal and State regulations.
17. No work that endangers, interferes, or conflicts with traffic or access to work sites shall be performed until a plan for satisfactory warning and handling of traffic has been submitted by the contractor and approved by the Forest Service and Utah Department of Transportation. Construction signing for traffic control shall conform to the Manual of Uniform Traffic Control Devices (MUTCD).
18. Areas for staging operations and storage of materials shall be approved by the Forest Service.

No Action Alternative

The "No Action" alternative is included to meet requirements of the National Environmental Policy Act [40 CFR 1502.14(d)] which stipulates that "in addition to the proposed action, the no action alternative shall always be fully developed and analyzed in detail." Under this alternative, none of the activities described in the Proposed Action would occur in the project area.

Process and Decision Framework

In consideration of the stated purpose and need and this analysis of environmental effects, the Forest Supervisor of the Ashely National Forest, as the Responsible Official, will decide whether the proposed action will proceed as proposed, as modified, or not at all. If it does proceed, the Forest Supervisor will decide what design criteria and monitoring requirements will be applied to the proposed action. This decision will be based upon an analysis of the goals and objectives set forth in the 1986 Ashley Land and Resource Management Plan (Forest Plan), in accordance with

the Forest Plan management prescriptions for the project area, as well as the applicable standards and guidelines set forth therein and as discussed in further detail in this document.

The BLM and the BOR will also be preparing their own agency decision documents based upon the information and analyses contained in this EA and upon an analysis of the goals and objectives of their respective land management plans and policies for the project area.

Environmental Impacts of the Proposed Action and Alternatives

This section summarizes the potential impacts of the proposed action and alternatives for each impacted resource. Resources that were not impacted or were present but not affected to a degree that detailed analysis is required and therefore not further analyzed include:

- **Air Quality**: Dust and vehicle emissions would be generated during the construction phase of the project; however, impacts from emissions are expected to be short term and indistinguishable from background emissions as measured by monitors or predicted by models.
- **Prime and Unique Farmland**: No soil surveys have been conducted for the project area so no prime, unique or statewide important farmlands have been designed.
- **Noise**: Construction of the project would result in temporary noise increases in the immediate area of construction activities, which would be short term and would not impact any receptors in the area. Impacts from temporary noise increases on wildlife is addressed in connection with said resources.
- **Land Use**: No existing land uses would be changed or modified by the implementation of the Proposed Action. Access to adjacent properties would be maintained throughout the construction of the project.
- **Socio-Economics**: The Proposed Action would not adversely impact socio-economic conditions in either Uintah or Daggett County; it would provide high-speed fiber optic cable to the school district for schools in Manila and Dutch John.
- **Environmental Justice**: No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the Proposed Action.
- **Wilderness Areas**: The proposed project is not in a BLM Natural Area, a Wilderness/Wilderness Study Area (WSA), or a Land with Wilderness Characteristics (LWC) area, per the Vernal Field office of the BLM. The project is also not located within a congressionally designated wilderness area.
- **Roadless Areas**: The project area is located adjacent to existing roadways and utility lines and is not located in a designated roadless area.
- **Wild and Scenic Rivers**: There are no designated wild and scenic rivers within the project area.

Resource specialist reports were developed which analyzed the effects of the proposed action. The following resources were evaluated for effects and issues: Paleontology, Fisheries and Aquatic Wildlife, Terrestrial Wildlife, Botany, Recreation and Visuals, Soils, Hydrology, and Cultural Resources. These resource reports are briefly summarized in this EA for brevity because effects were either non-existent or minimal in scope. In addition, there were no issues that were raised by the public during the official comment period. Internal resource issues were dealt with by developing design criteria, or adjusting the alignment of the conduit to avoid issues, and also minimize or eliminate resource effects. The complete resource reports, and other project information can be viewed at the following webpage:
https://www.fs.usda.gov/project/?project=50949.

Biological Resources

Affected Environment

Threatened and Endangered Species

The Endangered Species Act provides protection to Federally-listed threatened and endangered species and their designated critical habitats and is under the jurisdiction of the United States Fish and Wildlife Service (USFWS). Table 2 lists the threatened and endangered (T&E) species and their associated habitat that could potentially be present within the project area.

Table 2. Threatened and Endangered Species for the Project Area

Species	Status	Habitat
Terrestrial Species		
Black-footed ferret *Mustela nigripes*	Experimental population, Non-essential	Live in underground prairie dog burrows and eat prairie dogs as their primary food source.
Canada lynx *Lynx canadensis*	Threatened	Classic boreal forest ecosystem known as the taiga; areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of the lynx.
Yellow-billed cuckoo *Coccyzus americanus*	Threatened	Wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened	Spotted owls are residents of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density). In Utah, owls are most often found in canyon habitat dominated by vertical-walled rocky cliffs within complex watersheds, including tributary side canyons. Owls are usually found in areas with some type of water source (i.e., perennial streams, creeks, and springs, ephemeral water, small pools from runoff, reservoir emissions).
Aquatic Species		
Bonytail *Gila elegans*	Endangered	Specific habitat requirements of the bonytail are not well known. It is a very rare species in the Colorado River Basin.
Humpback chub *Gila cypha*	Endangered	Suitable habitat is characterized by a wide variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat. Originally inhabited the main stem of the Colorado River from Lake Mead to the Green and Yampa River Basins. Currently, the species appears to be restricted to the Colorado River at Black Rocks and Westwater Canyon of the Green River, and Yampa Canyon of the Yampa River.

Species	Status	Habitat
Colorado pikeminnow *Ptychocheilus lucius*	Threatened	Range is restricted to the Upper Colorado River basin, upstream of Glen Canyon Dam. Adults use a variety of habitat types, mainly shoreline runs, eddies, backwater habitats, seasonally flooded bottoms, and side canyons. They are most abundant in the upper Green River (between the mouth of the Yampa River and head of Desolation Canyon) and lower Green River (between the Price and San Rafael Rivers). Critical habitat has been designated for these species in the Green River in Carbon, Emery, and Grand Counties.
Razorback sucker *Xyrauchen texanus*	Endangered	Inhabits warm water reaches of large rivers in areas that include deep runs, eddies, backwaters, and flooded off channel environments. The largest population is known to occur in the upper Green River between the confluence of the Yampa River and the confluence of the Duchesne River. Adults also occur in the Colorado River near Grand Junction, Colorado. Critical habitat has been designated for this species in the Green River in Carbon, Duchesne, Emery, Uintah, and Grand Counties.
Botanical Species		
Ute Ladies'-tresses *Sprianthes Diluvialis*	Threatened	*Spiranthes diluvialis* occurs in seasonally moist soils and wet meadows near springs, lakes, or perennial streams and their associated flood plains below 6,500 feet elevation in Utah, Colorado, and Nevada. Typical sites include old stream channels and alluvial terraces, sub-irrigated meadows, and other sites where the soil is saturated to within 18 inches of the surface at least temporarily during the spring or summer growing seasons.

Source: Species List obtained from the USFWS' IPaC system (http://ecos.fws.gov/ipac/) dated December 14, 2016

Forest Sensitive Species

Forest sensitive species known to occur on the Ashley National Forest were also considered for impacts that could result from the proposed project. Tables 3 and 4 list the sensitive wildlife and plant species that could potentially be present in the project area.

Table 3. Forest Sensitive Wildlife Species for the Ashley National Forest

Species	Habitat	Presence/Absence in Project Area
Terrestrial		
Bighorn Sheep *Ovis Canadensis*	Require steep rocky slopes.	May be present (known populations from Dowd to Manila)
Spotted Bat *Euderma maculatum*	Roost on rocky cliff faces, crevices, in caves, and in similar man-made structures.	Unlikely to be present

Species	Habitat	Presence/Absence in Project Area
Townsend's Big-Eared Bat *Corynorhinus townsendii townsendii*	Prefer large and open caves, tunnels, mining structures, buildings, and other man-made structures for roosting.	May be present (known populations in Sheep Creek Cove)
Bald Eagle *Haliaeetus leucocephalus*	Nests are almost always in tall trees and commonly near bodies of water where fish and waterfowl prey are available.	Unlikely to be present
Boreal Owl *Aegolius funereus*	Prefer mature coniferous forest habitats with nests located in cavities (such as holes in trees).	Unlikely to be present
Greater Sage Grouse *Centrocercus urophasianus*	Inhabit sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat with a good understory of grasses and forbs.	May be present
Peregrine Falcon *Falco peregrinus*	Roost in close proximity to water within tall, steep cliff faces or similar manmade structures.	Unlikely to be present
Flammulated owl *Otus flammeolus*	Common in montane pine forests, especially ponderosa pine forests.	May be present (known populations from McKee to Carter Creek)
Three-toed Woodpecker *Picoides tridactylus*	Dependent upon mature, old-growth conifer forests with an abundance of insects and the presences of snags for foraging and nesting.	May be present (known populations from McKee to Carter Creek)
Great Gray Owl *Strix nebulosi*	Nesting habitat can include a range of conifer forests and typically include copses or islands of aspens. Foraging is done in open areas.	Unlikely to be present
Northern Goshawk *Accipiter gentilis*	Require mature, old-growth trees in which to build nests and will utilize both deciduous and coniferous species. Prefer dense forests with large trees and high canopy cover.	May be present (known populations at East McKee, Skull Creek, and Meadow Park)
Pygmy rabbit Sylvilagus idahoensis	Barren, rocky, or grassy areas and cliffs among glaciers and receding snow banks or beyond timberline.	Unlikely to be present
Fringed myotis Myotis thysanodes	Middle elevations in desert, riparian, grassland, and woodland habitats	Unlikely to be present
Aquatic		
Columbia Spotted Frog *Rana luteiventris*	Associated with riparian areas such as spring seeps that have a permanent water source.	Unlikely to be present
Boreal Toad *Bufo boreas*	Found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.	Unlikely to be present

Species	Habitat	Presence/Absence in Project Area
Colorado River Cutthroat Trout *Oncorhynchus clarki pleuriticus*	Requires clear, cold, naturally flowing water with ample pools, stream cover, and low-sediment gravel beds. Only known to occur in isolated high-elevation headwater streams with limited access to other populations.	May be present

Sources: USFS Intermountain Region (R4) Threatened, Endangered, Proposed, and, Sensitive Species List, June 2016; Species at Risk Assessment, Ashley National Forest dated August 2016.

Table 4. Forest Sensitive Plant Species Potentially Present in the Project Area

Species	Habitat
Handsome Pussytoes *Antennaria pulcherrima*	Intermediate to rich fens and wet meadows
Graham's columbine *Aquilegia grahamii*	Deep stream-cut canyons, in cliff cracks, on ledges, in seeps or hanging gardens of the Pennsylvanian Permian Weber Sandstone
Ownbey's Thistle *Cirsium ownbeyi*	Sagebrush, desert shrub communities
Evert's Wafer Parsnip *Cymopterus evertii*	Grows in limestone gravels along the rim of Ashley Gorge, associated with Douglas fir and limber pine
Clustered Lady's Slipper *Cypripedium fasciculatum*	Grows in the shade of coniferous forests between 8,000 to 9,000 feet and in duff of moderately dense to dense lodgepole pine forests where understory species are sparse
Wasatch Draba *Draba brachystylis*	Grows in moist soils with rocks, talus, or scree in coniferous or aspen forests
Rockcress Draba *Draba globosa*	Grows in alpine tundra, often associated with persisting snow beds
Tundra Draba *Draba ventosa*	Alpine; Occurs in talus, scree slopes, slides, fell-fields; on cliffs and at the base of cliffs; on ridges; and on summits; often but not always found on limestone parent material
Untermann's Daisy *Erigeron untermannii*	Semi-barrens of sandstone, shale, and siltstone of the Uinta and Green River Formations; windswept, sparsely vegetated ridge tops within pinyon-juniper, Douglas-fir, and limber pine-bristle cone pine belts
Compound Kobresia *Kobresia simpliciuscula*	Rare calcareous or rich fens
Huber's Pepperplant *Lepidium huberi*	Eroding slopes and narrow, steep canyons of the Moenkopi Formation with mountain brush and ponderosa pine; canyon breaks
Goodrich's Blazingstar *Mentzelia goodrichii*	Grows on escarpments, eroding slopes, and semi-barrens of the Green River Formation
Maybell Locoweed *Oxytropis besseyi* var. *obnapiformis*	Pinyon-juniper and sagebrush communities, often on semi-barrens in either fine-textured or sandy substrates
Alpine Poppy *Papaver redicatum* var. *kluanense*	Restricted to a narrow habitat, which consists of Red Pine Sahel talus slopes and ridge tops
Stemless beardtongue *Penstemon acaulis*	Mixed desert shrub, black sagebrush, Wyoming big sagebrush, and pinyon-juniper communities

Species	Habitat
Desert Phacelia *Phacelia glandulosa* var. *deserta*	Desert shrub and Wyoming big sagebrush
Silvery Primrose *Primula incana*	Rare calcareous or rich fens

Sources: USFS Intermountain Region (R4) Threatened, Endangered, Proposed, and, Sensitive Species List, June 2016; Species at Risk Assessment, Ashley National Forest dated August 2016.

According to the BLM, crucial deer and elk winter range habitat has been designated within the project area. Further, the proposed project is within suitable habitat for Hamilton milkvetch (*Astragalus hamiltonii*) and there are known locations of this species near the proposed right-of-way, per the BLM review of GIS data. The proposed project is also within a Priority Habitat Management Area (PHMA) or General Habitat Management Area (GHMA) for greater sage-grouse. Also, the proposed project will occur near the only known population of Ackerman green gentian (*Frasera ackermaniae*). In addition to Utah BLM Sensitive Species, the proposed project would intersect with suitable habitat and would be installed near several known location of graham's columbine (*Aquilegia grahamii*).

Management Indicator Species

The National Forest Management Act (NFMA) requires each National Forest to identify species that are evaluated to help monitor the success of management practices within the forest. Management Indicator Species (MIS) are identified in a Forest's Land and Resource Management Plan (Forest Plan) as organisms that serve as indicators of ecosystem health and impacts to these species are evaluated at the population level. The management indicator species listed in Table 5 were obtained from the *Species at Risk Assessment, Ashley National Forest* dated August 2016.

Table 5. Ashley National Forest MIS Species Potentially Present in the Ashley National Forest

Species	Habitat	Presence/Absence in Project Area
Terrestrial		
Northern goshawk *Accipiter gentilis*	Require mature, old-growth trees in which to build nests and will utilize both deciduous and coniferous species. Prefer dense forests with large trees and high canopy cover.	May be present
Greater Sage Grouse *Centrocercus urophasianus*	Inhabit sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat with a good understory of grasses and forbs.	May be present
Mule deer Odocoileus hemionus	found in many types of habitat, ranging from open deserts to high mountains to urban areas; often migrate from high mountainous areas in the summer to lower elevations in the winter to avoid deep snow	May be present
Rocky Mountain elk Cervus Canadensis nelsoni	Found in a variety of habitats, from rainforests to alpine meadows and dry desert valleys to hardwood forests	May be present

Species	Habitat	Presence/Absence in Project Area
Red-naped sapsucker *Sphyrapicus nuchalis*	Commonly found along riparian woodlands at mid-elevations throughout the state of Utah in summer	May be present
Song sparrow Melospiza melodia	Occupies a variety of habitats, breeding mainly in streamside thickets and marshes, but it is found also in wet meadows, bogs, forest edges, clearings, and residential areas during all seasons	Unlikely to be present
White-tailed ptarmigan *Lagopus leucura*	Alpine species, generally found above 10,000 feet altitude	Unlikely to be present
Warbling vireo *Vireo gilvus*	Habitats include open deciduous and mixed woodlands, including, in Utah, riparian woodlands and montane aspen forests	May be present
Lincoln's sparrow Melopsiza lincolnii	Habitats utilized during the breeding season include wet meadows, bogs, and riparian thickets, especially where these habitats include willows and where shrub cover is dense; during migration and in winter, this species uses a much broader array of habitats, ranging from weedy pastures to tropical forests.	Unlikely to be present
Golden eagle *Aquila chrysaetos*	Found in open country, especially in mountainous regions. Nests are constructed on cliffs or in large trees.	Unlikely to be present
Aquatic		
Cutthroat Trout *Oncorhynchus clarki*	Requires clear, cold, naturally flowing water with ample pools, stream cover, and low-sediment gravel beds. Occur in most perennial streams across the Forest, especially isolated high-elevation headwater streams and lakes.	May be present
Aquatic macroinvertebrates	Occurs in rivers/streams and lakes.	May be present

USFWS Birds of Conservation Concern and Utah Partners in Flight (PIF)

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS. The proposed action has the potential to affect nesting birds protected under the MBTA, if any migratory birds are present in the project area, due to construction activities.

A list of the USFWS Birds of Conservation Concern was obtained from the USFS and the Ashley National Forest. Further, the Utah Partners in Flight identifies priority species for conservation based upon a determination of declining abundance or distribution or vulnerability of various local and/or range-wide risk factors.

Environmental Effects

No-Action Alternative

Under the No-Action alternative, existing conditions would continue as at present, and as a result, there would be no effects.

Proposed Action Alternative

Threatened and Endangered Species

Direct and Indirect Effects

Table 6 sets forth the effect determinations for the federally-listed species that would occur as a result of the proposed project, and the rationale for those determinations. No direct or indirect effects are anticipated.

Table 6. Effect Determinations for Threatened and Endangered Species

Species	Status	Effect Determination
Terrestrial Species		
Black-footed ferret *Mustela nigripes*	Endangered	No evidence of the black-footed ferret was observed in the project area. It is unlikely that the species is found in the project area. There is no designated or proposed critical habitat for the species in the project area. Given these conditions, the proposed project would have **No Effect** to the black-footed ferret.
Canada lynx *Lynx canadensis*	Threatened	No evidence of the Canada lynx was observed in the project area. It is unlikely that the species is found in the project area. There is no designated or proposed critical habitat for the species in the project area. Given these conditions, the proposed project would have **No Effect** on the Canada lynx.
Yellow-billed cuckoo *Coccyzus americanus*	Threatened	No evidence of the yellow-billed cuckoo was observed in the project area. It is unlikely that the species is found in the project area. There is no designated or proposed critical habitat for the species in the project area. Given these conditions, the proposed project would have **No Effect** on the yellow-billed cuckoo.
Mexican spotted-owl *Strix occidentalis*	Threatened	No evidence of the Mexican spotted owl was observed in the project area. It is unlikely that the species is found in the project area. There is no designated or proposed critical habitat for the species in the project area. Given these conditions, the proposed project would have **No Effect** on the Mexican spotted owl.
Aquatic Species		
Bonytail *Gila elegans*	Endangered	There is no critical habitat designated for this species within the project area. The proposed project would not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for bonytail. The proposed project would not impact habitat occupied by bonytail. The proposed project would have **No Effect** on bonytail.

Species	Status	Effect Determination
Humpback chub *Gila cypha*	Endangered	There is no critical habitat designated for this species within the project area. The proposed project would not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for humpback chub. The proposed project would not impact habitat occupied by humpback chub. The proposed project would have **No Effect** on humpback chub.
Colorado pikeminnow *Ptychocheilus lucius*	Threatened	There is no critical habitat designated for this species within the project area. The proposed project will not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for Colorado pikeminnow. The proposed project will not impact habitat occupied by Colorado pikeminnow. The proposed project would have **No Effect** on Colorado pikeminnow.
Razorback sucker *Xyrauchen texanus*	Endangered	There is no critical habitat designated for this species within the project area. The proposed project would not impact, utilize or deplete water from any tributaries that contribute to occupied habitat for razorback sucker. The proposed project would not impact habitat occupied by razorback sucker. The proposed project would have **No Effect** on razorback sucker.
Botanical Species		
Ute Ladies'-tresses *Sprianthes Diluvialis*	Threatened	Based on field observations, reconnaissance surveys, suitable habitat requirements, and the scope of the project, it has been determined that the proposed project would have **No Effect** on Ute Ladies'-tresses due to the lack of suitable habitat in the project area.

The proposed ground-disturbing activities for the installation of the fiber optic conduit could result in sediment leaving the construction site and eventually reaching the Colorado River. The only indirect effect to either the above-referenced federally-listed aquatic species would be the potential delivery of sediment to any local streams that may be tributaries to the Colorado River as a result of project activities. The incorporation of Best Management Practices would minimize the potential for sediment entering the stream as a result of project activities. Because of this, sediment levels are expected to be negligible and undetectable, if any. In addition, habitat for the four endangered fish species within the large river systems already carries relatively high sediment loads, especially during spring run-off events. These species are adapted to living in turbid environments. Therefore, there would be no indirect effects to aquatic species. No indirect effects are anticipated to any other federally-listed species.

In accordance with the USFWS memo dated January 27, 2006, USFWS no longer concurs on "no-effect" determinations. No formal consultation with the USFWS was conducted for this project.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct or indirect impacts to federally-listed ESA species, there would be no cumulative effect

Forest Sensitive Species - Wildlife

Direct Effects

Construction dust, noise, vibration, and increased human presence and equipment may result in temporary avoidance of the project area by Sensitive Species present in the project area, including bighorn sheep, greater sage grouse, flammulated owl, three-toed woodpecker, peregrine falcon. These effects would be temporary and limited to the construction time-frame. For the Townsend's big-eared bat, project activities would not occur during the nocturnal active period for this species and the known habitat for the species is sufficiently removed from the project area so that daytime activities would not likely create a disturbance; therefore the proposed project would have no direct impact to the species. The Proposed Action would potentially have impacts to the northern goshawk and the Colorado River cutthroat trout, as discussed below. A summary of impact determinations for Forest sensitive species is found in Table 7.

Northern Goshawk

There are three known Northern goshawk territories located in close association to US-191 and near the proposed project area. These territories include: East McKee, Skull Creek, and Meadow Park. The project could potentially impact this species if construction activities were to take place in the vicinity of these known nesting sites during the incubation season (approximately May to June). Each territory will be investigated by a qualified biologist at the beginning of the goshawk nesting season to determine if any are actively occupied by breeding goshawks. If any nest sites are determined to be active during the breeding season between March 1 and September 30, the proposed project will adhere to the following:

- **East McKee** – If this territory is active during the construction phase, approximately 0.5 miles along US-191 on either side of the junction with FR047 will be avoided for staging areas, stationary work concentration areas, and the placement of equipment.
- **Skull Creek** – If this territory is active during the construction phase, staging areas, stationary work concentration areas, and placement of equipment will be avoided for approximately 0.5 miles east of the Skull Creek Campground road junction along US-191.
- **Meadow Park** - If this territory is active during the construction phase, staging areas, stationary work concentration areas, and placement of equipment will be avoided from Cub Creek Easterly for approximately 0.75 miles along US-191.

Colorado River Cutthroat Trout

Colorado River cutthroat trout are listed as a sensitive species on the Ashley National Forest and occupy habitat within the Sheep Creek, Elk Creek, and Big Brush Creek drainages upstream of and within the proposed project area. Construction activities associated with the proposed project would not involve work in any of these creeks. During construction, the project would include directional boring to place the fiber optic conduit underneath the waterways without any impacts to the streambeds. There would be no water depletion from the Upper Colorado River Basin as a result implementing the proposed project and no impact to water quality. Further, the project would not result in damage to the water quality of the rivers and streams from either nutrient enrichment or changes in the pH of the water from pollutants. Any spills of diesel fuel or other chemicals that

may occur during construction would be appropriately remediated to prevent any water contamination. Therefore, the project would have no impact on the Colorado River cutthroat trout. According to the BLM, crucial deer and elk winter range habitat has been designated within the project area. If construction occurs outside of the winter timing (December 1 to April 30) and within existing disturbed areas, then impacts would be minimal, if any. The proposed project would not change the value of crucial deer and elk habitat within the area. Further, there would likely be no impacts to greater sage-grouse habitat, as the project would be installed within the existing roadway right-of-way. The installation would still need to follow recommended Required Design Features (RDFs). See the RDF Checklist attached to this EA.

Table 7. Summary of Impact Determinations for USFS Sensitive Species

Species	Impact Determinations
Bighorn Sheep *Ovis Canadensis*	The proposed project may result in a temporary displacement of individuals from the project area during construction due to noise, dust and other construction activities. This project **may impact but is unlikely to adversely impact** this species.
Spotted Bat *Euderma maculatum*	Project activities would not occur during the nocturnal active period for this species and the known habitat for the species is sufficiently removed from the project area so that daytime activities would not be likely to disturb; therefore the proposed project would have **no impact** to the species.
Townsend's Big-Eared Bat *Corynorhinus townsendii townsendii*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Bald Eagle *Haliaeetus leucocephalus*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Boreal Owl *Aegolius funereus*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Greater Sage Grouse *Centrocercus urophasianus*	The proposed project may result in a temporary displacement of individuals from the project area during construction due to noise, dust and other construction activities. This project **may impact but is unlikely to adversely impact** this species.
Peregrine Falcon *Falco peregrinus*	The proposed project may result in a temporary displacement of individuals from the project area during construction due to noise, dust and other construction activities. This project **may impact but is unlikely to adversely impact** this species.
Flammulated owl *Otus flammeolus*	The proposed project may result in a temporary displacement of individuals from the project area during construction due to noise, dust and other construction activities. This project **may impact but is unlikely to adversely impact** this species.

Species	Impact Determinations
Three-toed Woodpecker *Picoides tridactylus*	The proposed project may result in a temporary displacement of individuals from the project area during construction due to noise, dust and other construction activities. This project **may impact but is unlikely to adversely impact** this species.
Great Gray Owl *Strix nebulosi*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Northern Goshawk *Accipiter gentilis*	Staging areas and stationary work concentration areas would not be located within 0.75 miles of any active territories within proximity to the proposed project during the breeding season between March 1 and September 30. Therefore, the proposed project would have **no impact** to the species. If the territory is active, further consultation with the USFS is required.
Columbia Spotted Frog *Rana luteiventris*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Boreal Toad *Bufo boreas*	It is unlikely that the species is found in the project area and therefore the proposed project would have **no impact** to the species.
Colorado River cutthroat trout	The fiber optic cable would be installed by boring under streams and would not disturbance or alter them in any way. Given these conditions, the proposed project would **not impact** the Colorado River cutthroat trout.

Indirect Effects

Under the proposed project, construction dust, noise, vibration, and increased human presence and equipment may result in temporary avoidance of the project area by wildlife and migratory birds. However, these effects would be temporary and limited to the construction time-frame. Due to the design criteria to be included for the northern goshawk, there would be no impact from the proposed project, as all construction activities would be conducted either outside of the breeding season or at a sufficient distance away from known locations. The proposed project would have only minor temporary impacts on sensitive species during construction and would result in no long-term adverse impacts.

The proposed ground-disturbing activities for the installation of the fiber optic conduit could result in sediment leaving the construction site and eventually reaching streams occupied by CRCT. The only indirect effect to the cutthroat trout or its habitat would be the potential delivery of sediment to streams as a result of project activities. The incorporation of Best Management Practices as included in the EA would minimize the potential for sediment entering the stream as a result of project activities. Because of this, sediment levels are expected to be negligible and undetectable, if any. Further, any effects would be short-term and would be expected to be non-existent once conditions in the project area stabilize. This time period is expected to be less than three years

following the installation. Therefore, it is determined that the proposed project will result in **No Impacts** to CRCT on the Ashley National Forest.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct and only temporary indirect impacts to Forest MIS, the project would not contribute to cumulative effects on said species.

Forest Sensitive Species - Plants

Direct and Indirect Effects

Due to the nature of the project as having limited ground disturbing activities and restricting such activities to within the roadway right-of-way, it is unlikely that the project would impact Forest sensitive plant species, as the project would avoid environmentally sensitive areas. No impacts to botanical species would result from the operation of the fiber optic network. For the BLM, the proposed project would be installed in a corridor 15-20 feet in width, parallel to an existing road and therefore should not impact relict plant communities. Staging areas would avoid environmentally sensitive areas and would therefore not impact relict plant communities. Due to the nature of the project as having limited ground disturbing activities and restricting such activities to within the roadway prism, it is unlikely that the project would impact Forest or BLM sensitive plant species. No impacts to botanical species would result from the operation of the fiber optic network.

To mitigate for vegetation impacts reseeding and revegetation utilizing native and non-native vegetation mix that reflects the vegetation currently present in the project area species would be performed as a part of the Proposed Action alternative. Best Management Practices would be implemented during construction to protect the integrity of the plant communities in the area and to help prevent introduction of noxious and invasive plant species, which would include:

- Plan activities to limit the potential introduction and spread of non-native invasive species (NNIS) prior to construction,
- Select locally native and non-native vegetation mix that reflects the vegetation currently present in the project area species for revegetation and restoration activities,
- Inspect and clean clothing, footwear and gear for soils, seeds, plant parts, or invertebrates before and after activities,
- Prior to moving equipment out of an infested area and into an uninfested area, clean soils, seeds, plant parts, or invertebrates from exterior surfaces, to the extent practical, to minimize the risk of transporting propagules,
- Revegetate disturbed soils as soon as feasible to minimize NNIS establishment,
- Allow natural revegetation of the ground layer to occur only where site conditions permit,
- Ensure the species specified in the plan are the ones being used, and
- Monitor the revegetation site for NNIS.

No permanent impacts to native vegetation are anticipated as a result of the proposed action. Avoidance and minimization measures would be implemented to reduce impacts to vegetation. Therefore, it is determined that the proposed project **may impact, but will not contribute to a negative trend** for Forest sensitive plants on the Ashley National Forest.

Management Indicator Species

Direct and Indirect Effects

The Proposed Action would potentially impact the northern goshawk, mule deer, Rocky Mountain Elk, greater sage grouse, red-naped sapsucker, warbling vireo, cutthroat trout, and aquatic macroinvertebrates. Since the northern goshawk is also a Forest sensitive species, impacts to that species have already been addressed.

Mule Deer and Rocky Mountain Elk

No direct impacts to mule deer or elk habitat are expected as a result of the project since the fiber optic conduit would be installed within the roadway prism or attached to existing poles. During construction, noise impacts may disturb individuals that may be present within the vicinity of the project area; however, such impacts would be temporary and limited to the construction period, which does not include breeding season. Therefore, this project **may impact individuals but would not impact** population trends.

Greater Sage-Grouse

No direct impacts to greater sage-grouse habitat are expected as a result of this project since the fiber optic conduit would be installed within the roadway prism or attached to existing poles. During construction, noise impacts may disturb individuals that may be present within the vicinity of the project area; however, such impacts would be temporary and limited to the construction period. Therefore, this project **may impact individuals but would not impact** population trends.

Red-naped Sapsucker and Warbling Vireo

The proposed project would occur within the existing roadway prism of US-191 and US-44, with disturbance being limited to a minimal corridor. Vegetation removal, if any, would be limited to the immediate project area and would not involve the removal of trees or other such woody vegetation. All disturbed areas would be revegetation after construction was complete. During construction, noise impacts may disturb individuals that may be present within the vicinity of the project area; however, such impacts would be temporary and limited to the construction period, which does not include breeding season. Therefore, this project **may impact individuals but would not impact** population trends.

Aquatic Macroinvertebrates

During construction, the project would include directional boring to place the fiber optic conduit underneath the waterways without any impacts to the streambeds. There would be no water depletion from the Upper Colorado River Basin as a result implementing the proposed project and no impact to water quality. Further, the project would not result in damage to the water quality of the rivers and streams from either nutrient enrichment or changes in the pH of the water from pollutants. Any spills of diesel fuel or other chemicals that may occur during construction would be appropriately remediated to prevent any water contamination. Therefore, the project would have **no impact** on aquatic macroinvertebrates.

Cutthroat Trout

The proposed ground-disturbing activities for the installation of the fiber optic conduit could result in sediment leaving the construction site and eventually reaching the Colorado River. The only indirect effect to the cutthroat trout or its habitat would be the potential delivery of sediment to streams as a result of project activities. The incorporation of Best Management Practices as included in the EA would minimize the potential for sediment entering the stream as a result of project activities. Because of this, sediment levels are expected to be negligible and undetectable, if any. Further, any effects would be short-term and would be expected to be non-existent once

conditions in the project area stabilize. This time period is expected to be less than three years following the installation. Therefore, it is determined that the proposed project **may impact, but will not contribute to a negative trend** for cutthroat trout on the Ashley National Forest.

Cumulative Impacts

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct and only temporary indirect impacts to Forest MIS, the project would not contribute to cumulative effects on said species.

USFWS Birds of Conservation Concern (BCC) and Utah Partners in Flight (PIF) Priority Species

Direct and Indirect Effects

The proposed project would occur within the existing roadway prism of US-191 and US-44, with disturbance being limited to a minimal corridor. Vegetation removal, if any, would be limited to the immediate project area and would not involve the removal of trees or other such woody vegetation. All disturbed areas would be revegetated after construction was complete. During construction, noise, dust, vibration and increased human presence and equipment may disturb individuals that may be present within the vicinity of the project area; however, such impacts would be temporary and limited to the construction period, which does not include breeding season.

Although construction activities would be required to occur during the nesting seasons (March 1, to August 1) due to the nature of the project area that would prohibit construction during the winter months, nest surveys would be conducted prior to construction to determine if there are any migratory species present in the project area. If nests are encountered within the project area, a spatial avoidance buffer would be determined in accordance with the individual needs of the species by a qualified biologist in consultation with the Ashley National Forest. No construction activities would be permitted within the avoidance buffer until after the nestlings have fledged. Further, all employees, contractors, and/or site visitors would be trained to identify sensitive wildlife and migratory birds and on the relevant environmental rules and regulations. Therefore, it is determined that the proposed project **may impact individuals, but will not contribute to a negative trend** for BCC or PIF species on the Ashley National Forest.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. The project would potentially displace some migratory birds during construction if there are any present in the project area; however, such impacts would be minor and temporary. Therefore, the project would not contribute to cumulative effects on said species.

Cultural Resources

Cultural resources include archaeological resources (both prehistoric and historic), architectural or historic resources (buildings and structures), and traditional cultural properties (TCPs). The Advisory Council on Historic Preservation (ACHP) defines a historic resource as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) (i.e., historic properties built 50 years ago or later)." The term includes artifacts, records, and remains related to and located within such properties and includes properties of traditional religious and cultural importance to a Native American tribe that also meets the National Register criteria. The term "eligible for inclusion" in the NRHP includes all properties that meet the National Register criteria, whether or not formally determined as such.

The National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR 800) establish the national policy and procedures regarding cultural resources. Section 106 of the NHPA requires consideration of the effects of federal projects and policies on cultural resources. The Utah Antiquities Act (Utah Code Annotated 9-8-102 et seq. (404)) also provides protection of "all antiquities, historic and prehistoric ruins, and historic sites, buildings, and objects which, when neglected, desecrated, destroyed or diminished in aesthetic value, result in an irreplaceable loss to the people of this state."

Affected Environment

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470 et seq.), and U.C.A. 9-8-404, the USFS, the BLM, BOR, UDOT and SITLA jointly are taking into account the effects of the proposed undertaking on historic properties, including archaeological resources, for the resources that are under their jurisdiction. The Area of Potential Effects (APE) for the project includes areas within 15 meters (50 feet) of the edge of pavement of US-191 and SR-44.

Native American tribes that may have an interest in the area were contacted to inform them about the proposed project and to solicit their participation in this evaluation at whatever level they deemed appropriate. Letters were sent to the Ute Indian tribe. No verbal or written responses to the letters were received.

A Class I records search, Class III field inventories were conducted, including notification to Native American tribes, to identify cultural resources within the project APE. An architectural report titled *A Selective, Reconnaissance Level Survey of Historic Architecture for the Strata Networks US-191; Vernal to Manila and Dutch John Fiber Optic Project* (Steele, 2017) and an archaeological report titled *An Archaeological Investigation of the Strata Networks US-191; Vernal to Manila and Dutch John Fiber Optic Project* (Steele, 2017) report on the cultural resources within the APE.

Architectural Resources

Two properties from the historic era, Cart Creek Bridge and Flaming Gorge Dam, were recorded during the survey. A second historic bridge carrying US-191 over Ashley Creek was discovered to have been recently replaced. See Table 8.

Table 8 Eligibility Determinations for Architectural Resources within the APE

Resource	Description	Date	Eligibility
Cart Creek Bridge (Structure No. 0C 372)	567-foot steel through-arch bridge over Cart Creek Bay of Flaming Gorge Reservoir	1962	**Eligible**
Flaming Gorge Dam (Site 42DA2103)	Concrete dam, steel stringer/multi-beam or girder bridge, visitor center, and power substation	1958-1963	**Eligible**
US-191 Bridge at Ashley Creek	Concrete bridge	c. 2012	Out of Period

Archaeological Resources

A review of available information contained in Ashley National Forest records and the Utah Division of State History's online Preservation Pro website was undertaken to identify previously recorded sites located within the study area. Five additional sites were newly recorded by this survey. These sites are found in Table 9 below.

Table 9. Eligibility Determinations for Archaeological Resources within the APE

Site No.	Description	Jurisdiction	Eligibility
42DA7	Lithic Scatter	UDOT	Ineligible
42DA160	Lithic Scatter, possible rock shelter	USFS	**Eligible**
42DA207	Prehistoric Campsite	USFS	**Eligible**
42DA365	Historic Habitation	USFS	Ineligible
42DA548	Lithic Scatter	USFS	Ineligible
42DA730	Lithic Scatter	USFS	Ineligible
42DA759	Greendale Canal	USFS	**Eligible**
42DA853	Prehistoric Campsite	USFS	**Eligible**
42DA1296	Lithic Scatter	USFS	Ineligible
42DA1386	Lithic Scatter	USFS	**Eligible**
42DA1748	Lithic Scatter	USFS	Ineligible
42DA1837 / 42UN7680	Transmission Line	USFS, BLM, Private	Ineligible
42DA1838 / 42UN7681	Transmission Line	USFS	Ineligible
42DA1859	Lithic Scatter	USFS	Ineligible
42DA1868	Rockshelters	USFS	**Eligible**
42DA1870	Prehistoric Campsite	USFS	Ineligible
42DA1871	Lithic Scatter	USFS	**Eligible**
42DA1874	Prehistoric Campsite	USFS	**Eligible**
42DA1876	Lithic Scatter	USFS	**Eligible**
42DA1877	Lithic Scatter	USFS	**Eligible**
42DA1878	Prehistoric Campsite	USFS	Ineligible
42DA1879	Lithic Scatter	USFS	Ineligible
42DA1901	Historic Highway	USFS, UDOT, SITLA	**Eligible**
42DA1906	Lithic Scatter	USFS	**Eligible**

Site No.	Description	Jurisdiction	Eligibility
42DA1930	Historic Road Segment	USFS	**Eligible**
42DA1982	Historic Road	USFS	Ineligible
42DA2022	Historic Campsite	USFS	Ineligible
42DA2023	Historic Campsite	USFS	Ineligible
42DA2098	Large Lithic Scatter	UDOT, Private	**Eligible**
42DA2099	Historic can and glass scatter	Private	Ineligible
42DA2100	Small lithic scatter	USFS	Ineligible
42DA2103	Flaming Gorge Dam	BOR	**Eligible**
42DA2106	Lithic Scatter	USFS	**Unevaluated, Treated as Eligible**
42UN8670	Rock art panel	BLM	**Eligible**

Environmental Effects

No-Action Alternative

Under the No-Action Alternative, there would be no impacts to cultural resources due to the lack of construction activities within the project area.

Proposed Action Alternative

Effects are defined as "alteration[s] to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR §800.16(i)). Impacts to historic properties are categorized as No Historic Properties Affected, No Adverse Effect, and Adverse Effect.

A finding of ***No Historic Properties Affected*** is made when "[e]ither there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i)" (See 36 CFR §800.4(d)(1)).

A finding of ***No Adverse Effect*** is made "[w]hen the undertaking's effects do not meet the criteria of paragraph (a)(1) of this section [see Adverse Effect definition] or the undertaking is modified or conditions are imposed... to ensure consistency with the Secretary's standards for the treatment of historic properties (36 CFR §68) to avoid adverse effects" (See 36 CFR §800.5(b)).

A finding of ***Adverse Effect*** is made "[w]hen an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, and association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (See 36 CFR §800.5(a)(1)).

Direct Effects

Tables 10 and 11 set forth the determinations for both architectural and archaeological resources, respectively.

Table 10. Effect Determinations for Architectural Resources within the APE

Resource	Date	Eligibility	Effect Determination
Cart Creek Bridge (Structure No. 0C 372)	1962	**Eligible**	**No Adverse Effect**
Flaming Gorge Dam (Site 42DA2103)	1958-1963	**Eligible**	**No Adverse Effect**
US-191 Bridge at Ashley Creek	c. 2012	Out of Period	Not Applicable

Table 11. Effect Determinations for Archaeological Resources within the APE

Site No.	Description	Jurisdiction	Eligibility	Effect Determination
42DA7	Lithic Scatter	UDOT	Ineligible	Not Applicable
42DA160	Lithic Scatter, possible rock shelter	USFS	**Eligible**	**No Historic Properties Affected**
42DA207	Prehistoric Campsite	USFS	**Eligible**	**No Historic Properties Affected**
42DA365	Historic Habitation	USFS	Ineligible	Not Applicable
42DA548	Lithic Scatter	USFS	Ineligible	Not Applicable
42DA730	Lithic Scatter	USFS	Ineligible	Not Applicable
42DA759	Greendale Canal	USFS	**Eligible**	**No Historic Properties Affected**
42DA853	Prehistoric Campsite	USFS	**Eligible**	**No Historic Properties Affected**
42DA1296	Lithic Scatter	USFS	Ineligible	Not Applicable
42DA1386	Lithic Scatter	USFS	**Eligible**	**No Historic Properties Affected**
42DA1748	Lithic Scatter	USFS	Ineligible	Not Applicable
42DA1837 / 42UN7680	Transmission Line	USFS, BLM, Private	Ineligible	Not Applicable
42DA1838 / 42UN7681	Transmission Line	USFS	Ineligible	Not Applicable
42DA1859	Lithic Scatter	USFS	Ineligible	Not Applicable
42DA7868	Rockshelters	USFS	**Eligible**	**No Historic Properties Affected**
42DA1870	Prehistoric Campsite	USFS	Ineligible	Not Applicable
42DA1871	Lithic Scatter	USFS	**Eligible**	**No Historic Properties Affected**
42DA1874	Prehistoric Campsite	USFS	**Eligible**	**No Historic Properties Affected**
42DA1876	Lithic Scatter	USFS	**Eligible**	**No Historic Properties Affected**
42DA1877	Lithic Scatter	USFS	**Eligible**	**No Historic Properties Affected**
42DA1878	Prehistoric Campsite	USFS	Ineligible	Not Applicable
42DA1879	Lithic Scatter	USFS	Ineligible	Not Applicable

Site No.	Description	Jurisdiction	Eligibility	Effect Determination
42DA1901	Historic Highway	USFS, UDOT, SITLA	**Eligible**	**No Historic Properties Affected**
42DA1906	Lithic Scatter	USFS	**Eligible**	**No Historic Properties Affected**
42DA1930	Historic Road Segment	USFS	**Eligible**	**No Historic Properties Affected**
42DA1982	Historic Road	USFS	Ineligible	Not Applicable
42DA2022	Historic Campsite	USFS	Ineligible	Not Applicable
42DA2023	Historic Campsite	USFS	Ineligible	Not Applicable
42DA2098	Large Lithic Scatter	UDOT, Private	**Eligible**	**No Adverse Effect**
42DA2099	Historic can and glass scatter	Private	Ineligible	Not Applicable
42DA2100	Small lithic scatter	USFS	Ineligible	Not Applicable
42DA2103	Flaming Gorge Dam	BOR	**Eligible**	**No Adverse Effect**
42DA2106	Lithic Scatter	USFS	**Unevaluated, Treated as Eligible**	**No Adverse Effect**
42UN8670	Rock art panel	BLM	**Eligible**	**No Historic Properties Affected**

The alignment of the fiber optic conduit will be structured so as to avoid direct impacts to all of the sites for which such measures are feasible. Sites 42DA2098, 42DA2103, and 42DA2106 will not be able to be avoided due to their proximity to the roadway. Through the boundaries of sites 42DA2098 and 42DA2106, the fiber optic line will be installed within the toe-of-slope of the highway, resulting in No Adverse Effect to these sites. Through site 42DA2103, Flaming Gorge Dam, the project will be conducted through existing utility corridors and will therefore not impact any historic features, resulting in No Adverse Effect to this site. The architectural property Cart Creek Bridge will have the fiber optic line installed in existing utility space along the bridge, resulting in a finding of No Adverse Effect.

Three ineligible sites, 42DA7, 42DA548, and 42UN1838/42UN7681 may also be affected by the project. By law, impacts to ineligible sites do not constitute an effect. However, the US Forest Service may require an archaeological monitor to be present during trenching through site 42DA548.

The fiber optic route will be shifted as necessary within the road corridor to avoid cultural resource sites. In areas where cultural resource sites are within the road corridor, the fiber optic line will be placed within the highway road bed. Strata will ensure that equipment, vehicles, and staging areas are not placed within cultural resources sites. An archaeologists will monitor construction activities in areas where National Register eligible cultural resource sites are within the road corridor. Cultural resource avoidance areas may be temporary flagged when deemed necessary by the Forest Archaeologist or by archaeologists from the BLM, BOR, SITLA or UDOT, for those resources within their areas of jurisdiction.

Should construction unearth previously undiscovered cultural resources, construction activities will cease within 100 feet of the area of the discovery and Strata and their contractors will contact the Forest and will follow the stipulations of the Forest Cultural Resource Inadvertent Discovery Plan.

In the unlikely event that human remains are discovered during construction, the provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 would be followed.

SHPO Consultation

A Determination of Eligibility and Finding of Effect (DOEFOE) that outlines the eligibility determinations for each architectural and archaeological resource was prepared in connection with this project and submitted to the Utah State Historic Preservation Officer (SHPO). SHPO consultation is currently in process.

Indirect Effects

Due to the nature of the project area, the project would not result in any development or other projects that would impact cultural resources in the project area. Therefore, the Proposed Action would have no indirect effects on cultural resources.

Cumulative Effects

The spatial bounds of the analysis includes the project area itself because this is the area that could be most impacted from project activities. The temporal bounds for the analysis includes the construction of US-191 and US-44, which impacted several identified archaeological sites to 50 years into the future because of the definition of historic properties. No present or reasonably foreseeable future projects that, when combined with the Proposed Action, would contribute cumulatively to impacts on cultural resources.

Paleontological Resources

Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or non-mineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, a fossil can never be replaced once destroyed. However, fossils can also be destroyed by erosion and other geologic processes over time, particularly when such fossils are located or near the surface where they can be observed. Therefore, appropriate collection and preservation of paleontological resources can salvage and retail those resources and the scientific information they provide, which would otherwise have been lost.

Affected Environment

Occurrences of paleontological resources are closely related to the geological units that contain them. The potential for finding important paleontological resources can, therefore, be broadly predicted by the presence or absence of potentially fossil-bearing geological units at or near the surface. The Potential Fossil Yield Classification (PFYC) system helps identify potential areas of concern. Under the PFYC system, geological units are classified on the basis of the relative abundance of vertebrate fossils or uncommon invertebrate or plant fossils and t heir sensitivity to adverse impacts; a higher class number indicates a higher potential. The classification system in intended to provide a baseline guidance for assessing and mitigation impacts to paleontological resources.

- Class 1: Class 1 units are geological units that are not likely to contain recognizable fossil remains.

- Class 2: Class 2 units are sedimentary geological units that are not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils.
- Class 3: Class 3 units are fossiliferous sedimentary geological units where fossil content varies in significance, abundance, and predictable occurrence or sedimentary units of unknown fossil potential.
- Class 4: Class 4 units are Class 5 geological units that have lowered risks of human-caused adverse impacts or lowered risk of natural degradation. Class 4 and 5 units are often combined as Class 5 for general application because Class 4 is determined from local mitigating conditions and the impacts of the planned action.
- Class 5: Class 5 units are highly fossiliferous geological units that regularly and predictably produce vertebrate fossils or uncommon invertebrate or plant fossils and that are at risk of human-caused adverse impacts or natural degradation.

A survey for paleontological resources was conducted for this project in order to locate, identify, and evaluate paleontological resources in accordance with the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources. The survey findings indicate that some paleontological resources are present along the proposed project route. However, the paleontological resources identified are not particularly sensitive. See Table 12 for a summary of the survey results.

Table 12. Paleontological Resources in the Project Area

Location	Significant Fossils?	PFYC Class
T4S, R21 E (Sections 2, 11, 14 and 23)	No	**Class 2**
T3S, R21E (Sections 12,13,14, 23, 26 and 35)	**Yes**	**Class 5**
T3S, R22E (Sections 7, 8 and 5)	**Yes**	**Class 5**
T2S, R22E (Sections 32, 29, 20, 19, 18, 7, 8, 5 and 6)	**Yes**	**Section 32 - Class 5** **Sections 29, 20, 19, 18, 7, 8, 5 and 6 – Class 3**
T1S, R22E (Sections 31, 30, 19, 20, 17, 8 and 5)	**Yes**	**Section 31, 30, 19, 20, and 17 – Class 3** **Sections 8 and 5 – Class 2**
T1N, R22E (Sections 31, 32, 29, 20, 17, 8 and 5)	No	**Class 1**
T2N, R22E (Sections 32, 31, 29, 20, 21, 16, 15, 14, 10, 11 and 2)	No	**Class 1 and 2**
T1N, R21E (Sections 4-6)	No	**Class 1**
T2N, R21E (Sections 36-33)	No	**Class 1**
T1N, R20E (Sections 1-4)	No	**Class 1**

Location	Significant Fossils?	PFYC Class
T2N, R20E (Sections 33, 32, 29, 19, 20, 17, 16, 8 and 7-5)	**Yes**	**Sections 33, 32 and 29 – Class 1 and 2** **Sections 19, 20, 17, 16 and 8 – Class 3** **Sections 7, 6 and 5 – Class 5**
T3N, R20E (Sections 31, 30, 19, and 18)	**Yes**	**Sections 31, 30 and 19 – Class 5** **Section 18 – Class 2**

Environmental Effects

No-Action Alternative

Under the No-Action Alternative, there would be no impacts to paleontological resources from the proposed project due to the lack of construction activities within the project area. However, natural erosion and degradation processes would slowly continue to impact and destroy the paleontological resources present. With no ground-disturbing project activities to uncover them, these resources would not be discovered or salvaged.

Proposed Action Alternative

Direct Effects

The Proposed Action would involve ground disturbance activities within the project area, including areas geological formations where significant paleontological resources may be expected or known to be present. However, the potential impacts would not likely be significant due to the nature of the potential fossils as not being significant. Most of the fossils observed by the paleontological survey within the Ashley National Forest portion of the project were not deemed to be scientifically significant. In addition, with the mitigation measures listed in Table 11, any significant paleontological resources discovered by the project are likely to be observed, and properly salvaged for future study, including resources which might otherwise have been destroyed by natural processes. Table 13 lists the required mitigations to be implemented for this project to prevent adverse impacts to paleontological resources.

Table 13. Required Paleontological Mitigation Measures for High Priority Areas

Locations	Required Mitigation Measures
T2S R22E (Sections 5, 6, 7, 8, and 18)	A permitted paleontologist will periodically spot-check excavation areas, to watch for and properly salvage any significant paleontological resources encountered.
T1S R22E Sections 17, 19, 20, 30, and 31	A permitted paleontologist will periodically spot-check excavation areas, to watch for and properly salvage any significant paleontological resources encountered.
T2N R20E Sections 8, 16, 17, 19, and 20	A permitted paleontologist will periodically spot-check excavation areas, to watch for and properly salvage any significant paleontological resources encountered.
T2N R20E (Sections 5, 6, and 7)	Paleontological monitoring by a permitted paleontologist is required. A permitted paleontologist will be present during all excavation activities, to watch for and properly recover any significant paleontological resources that are encountered.

Locations	Required Mitigation Measures
T2S, R22E (Section 32)	Recommended that a permitted paleontologist be present to monitor the installation of buried fiber optic line or any ground disturbing activities fulltime
T3S, R21E (Sections 12, 13, 14, 23, 26, and 35)	Recommended that a permitted paleontologist be present to monitor the installation of buried fiber optic line or any ground disturbing activities fulltime.
T3S, R22E (Sections 7, 8, and 5)	Recommended that a permitted paleontologist be present to monitor the installation of buried fiber optic line or any ground disturbing activities fulltime.
T3N, R20 E (Sections 31, 30, 19)	Recommended that a permitted paleontologist be present to monitor the installation of buried fiber optic line or any ground disturbing activities fulltime.
T3S, R22E (Section 7, Lot 4, SESW, NESW, NWSE, and SENE)	A licensed and permitted paleontologist is recommended onsite during excavation activities within these areas. New fossil discoveries should facilitate the cessation of all excavation activities, followed by immediate notification of the VFO officer for mitigation procedures.

For the entire project area, if significant paleontological resources are encountered, whether or not a paleontological monitor is present, construction activities will be halted within 50 feet of the discovery area, and the Forest Service will be notified. Ground disturbing operations within the area of the discovery would not resume until authorization to proceed has been received from either the Forest Service or the permitted Paleontologist for this project.

Indirect Effects

No indirect effects on paleontological resources are anticipated from the Proposed Action. Due to the nature of the project area, the project would not result in any development or other projects that would impact paleontological resources in the project area.

Cumulative Effects

The spatial bounds of the analysis includes the project area itself because this is the area that could be most impacted from project activities. The temporal bounds for the analysis includes the construction of US-191 and US-44, which was constructed through the same geological formations as the Proposed Action to 20 years into the future. No present or reasonably foreseeable future projects that, when combine with the Proposed Action, would contribute cumulatively to impacts on cultural resources.

Hydrology and Water Resources

Affected Environment

Watersheds and Water Quality

The project area spans two watersheds; the Ashley-Brush Watershed (HUC 14060002) and the Upper Green-Flaming Gorge Watershed (HUC 14040106). See Figure 2. The Upper Green-Flaming Gorge watershed straddles the upper northeast corner of the State of Utah and covers areas of Daggett, Summit, Duchesne and Uintah counties in Utah, as well as areas of Colorado and Wyoming. The Ashley-Brush Watershed is south of the Upper Green-Flaming Gorge Watershed and covers areas of Daggett and Uintah Counties in Utah. Both watersheds drain to the Lower Green-Diamond Watershed (HUC 14060001) and all water from this area eventually flows into the Green River, a known water of the U.S. The rivers and streams associated with both watersheds are included in Table 1 below. There are also a number of dry ephemeral washes that would periodically flow depending on seasonal fluxes in precipitation and intermittent channels.

Water bodies in Utah are assigned classifications depending on their beneficial uses. Streams within the project area are Class 2B, Class 3A, and Class 4 waters. According to Utah DEQ, Class 2B waters are for secondary contact recreation and include activities such as boating, wading or similar activities. Class 3A waters have protected cold water species of game fish and other cold water aquatic life including the necessary aquatic organisms in their food chain. Waters of the State that are protected for agricultural use are classified as Class 4 and include irrigation of crops and stock watering (Utah, 2008). 303(d) listed waters are those that are not meeting their designated beneficial uses. The assessed waters for each watershed are shown in Table 14, along with the designated use for which the water has been determined to be impaired.

Table 14. Assessed Waters in the Uinta Basin Watershed

Name	Location	Size	Cause of Impairment	Impaired Beneficial Use
Ashley-Brush Watershed				
Rivers and Streams				
Ashley Creek Lower	Ashley Creek and tributaries from Green River Confluence to Vernal Sewage Lagoons	8 miles	Selenium; Total Dissolved Solids (TDS)	4; 3B
Ashley Creek Upper	Ashley Creek and tributaries from Dry Fork Confluence to Headwaters (exclude Dry Fork)	71 miles	Aluminum	3A
Big Brush Creek	Big Brush Creek and tributaries from Red Fleet Reservoir to Headwaters	38 miles	Aluminum	3A

Name	Location	Size	Cause of Impairment	Impaired Beneficial Use
Brush Creek	Brush Creek and tributaries from Confluence with Green River to Red Fleet Dam (excluding Little Brush Creek)	26 miles	Selenium; Escherichia Coli (E. Coli)	2B, 3B
Green River – 2 Tributaries	Green River Tributaries from Duchesne River Confluence to Utah-Wyoming Border (except Ashley, Brush and Jones Hole Creeks)	13 miles	E. Coli	1C; 2A
Little Brush Creek Upper	Little Brush Creek and tributaries from the mouth of Little Crush Creek Gorge to Headwaters	36 miles	Aluminum	3B
Middle Ashley Creek	Ashley Creek and tributaries from Vernal Sewage Lagoons to Dry Fork Confluence	18 miles	Aluminum; Selenium; TDS	3B; 4
Lakes and Reservoirs				
Red Fleet Reservoir	Red Fleet Reservoir	520 acres	Dissolved Oxygen; Temperature	3A
Steinaker Reservoir	Steinaker Reservoir	829 acres	Dissolved Oxygen; Temperature	3A
Upper Green-Flaming Gorge Watershed				
Rivers and Streams				
Birch Spring Draw	Birch Spring Draw and tributaries from Flaming Gorge Reservoir to Headwaters	23 miles	Selenium, Dissolved; TDS	4; 3C
Cart Creek	Cart Creek and tributaries from Flaming Gorge Reservoir to Headwaters	18 miles	Aluminum, Dissolved; Temperature	3A
Carter Creek	Carter Creek and tributaries from Flaming Gorge Reservoir to Headwaters	112 miles	Aluminum	3A

Name	Location	Size	Cause of Impairment	Impaired Beneficial Use
Middle Fork Beaver Creek	Middle Fork Beaver Creek and tributaries from Utah-Wyoming State Line to Headwaters	33 miles	Aluminum	3A
Pot Creek	Pot Creek and tributaries from Crouse Reservoir to Headwaters	26 miles	Aluminum; Dissolved Oxygen, Iron, Temperature	3A
West Fork Beaver Creek	West Fork Beaver Creek and tributaries from Utah-Wyoming State Line to Headwaters	24 miles	Aluminum	3A
Lakes and Reservoirs				
Calder Reservoir	Calder Reservoir	99 acres	Dissolved Oxygen, Phosphorus, Total; Temperature	3A
Matt Warner Reservoir	Matt Warner Reservoir	297 acres	Dissolved Oxygen, Phosphorus, Total; Temperature	3A
Sheep Creek Lake	Sheep Creek Lake	86 acres	No evidence of impairment	Not applicable

Source: Utah DWQ's2016 Final Integrated Report, accessed on February 13, 2017, website located at (http://www.deq.utah.gov/ProgramsServices/programs/water/wqmanagement/assessment/currentIR2016.htm),; US EPA Surf Your Watershed website (https://cfpub.epa.gov/surf), accessed on February 10, 2017

Vernal and other small towns in the Uintah Basin obtain the majority of their water supplies from the Ashley Springs Watershed, which is located on the Forest. Direction for the management of the municipal watershed is contained in the Ashley National Forest Municipal Watershed Plan. The municipal watershed includes two main drainages: Ashley Creek drainage and Dry Fork drainage. This project is not located within the immediate vicinity of the Ashley Springs Watershed area. Further, Brush Creek is part of the state water quality program and is sampled periodically to test water quality and it is currently meeting all drinking water quality standards. According to BLM spatial analysis, there is no indication of interaction with subsurface horizons containing usable water supplies nor would it interfere with any existing water rights or the ability to utilize any existing water rights.

According to the BLM, the proposed action is within the Red Mountain Dry Fork Complex Area of Critical Environmental Concern (ACEC) area, which is also managed for watershed values.

Wild and Scenic Rivers

There are no designated wild and scenic rivers within the project area.

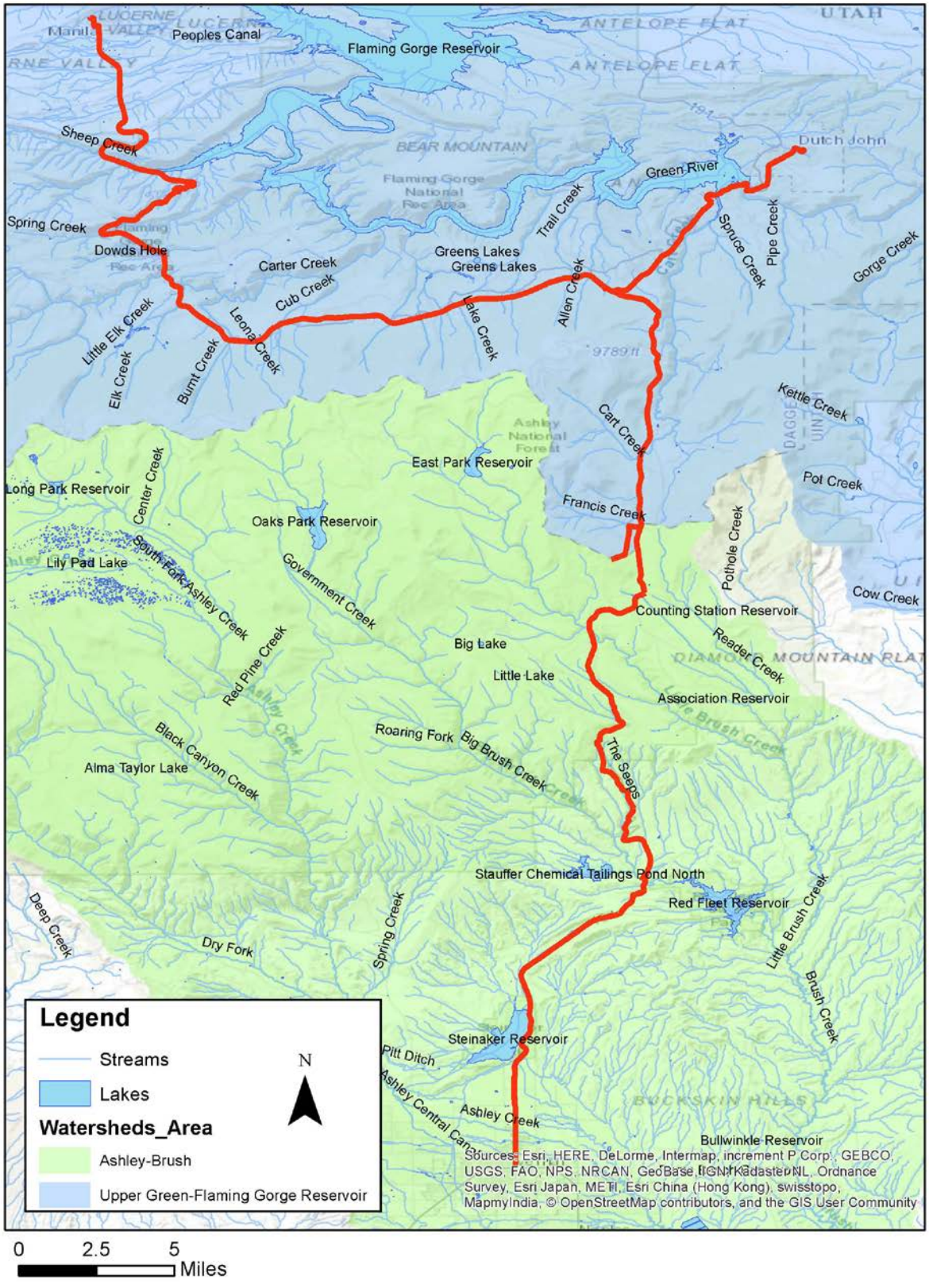

Figure 2. Watersheds in the Project Area

Floodplains

A floodplain is defined as a normally dry area surrounding a natural lake or river that is occasionally inundated by water and subject to periodic flooding. Floodplain impacts occur when a project encroaches on a 100-year floodplain (the area susceptible to 100-year floods), which in the case of roadways and other linear features, can be parallel or perpendicular crossings. Development in floodplains can reduce flood-carrying capacity and extend the flooding hazard beyond the developed area.

Due to the nature of the project area as being within the confines of the Ashley National Forest, the majority of it is unmapped for floodplains by the Federal Emergency Management Agency (FEMA). Floodplain maps are available for the areas within Vernal City and the Uintah County Unincorporated Areas at the southern end of the project area. However, there are floodplains that would be associated with the various streams and reservoirs that are located within the Ashley National Forest, including Steinaker Reservoir, Ashley Creek, Sheep Creek, and Cart Creek. See Figure 3. Floodplain zones used on Figure 3 are defined as follows:

- **A**: Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies
- **D**: Used for areas where there are possible but undetermined flood hazards
- **X**: Flood insurance rate zones that correspond to areas outside the 100-year floodplains, areas of 100-year sheet flow flooding where average depths are less than 1 foot, areas of 100-year stream flooding where the contributing drainage area is less than 1 square mile, or area protected from the 100-year flood by levees.

Wetlands

The U.S. Army Corps of Engineers (USACE) administers and enforces Section 404 of the Clean Water Act (33 U.S.C. 1251). Under the Clean Water Act, waters of the U.S. (WOUS) are defined as waters currently or previously used for interstate or foreign commerce; all interstate waters; any waters, the destruction of which could affect interstate or foreign commerce; all impoundments and tributaries of the previously mentioned waters; the territorial seas; and wetlands adjacent to waters. Wetlands are considered a subset of WOUS and, for the purposes of regulatory guidance, are considered special aquatic sites.

A wetland inventory was conducted in connection with this project. Over 150 probable wetland areas were identified during the inventory throughout the project area. Many of these potential wetland areas consist of narrow strips of land near irrigated farmlands or at the roadside edges. A few other potential wetlands that were inventoried were associated with water sources such as reservoirs, streams, ponds, and irrigation ditches located near the roadways. The BLM indicated that the project is located within the Donkey Flat wetlands/riparian zone per the Vernal Field Office GIS data layers.

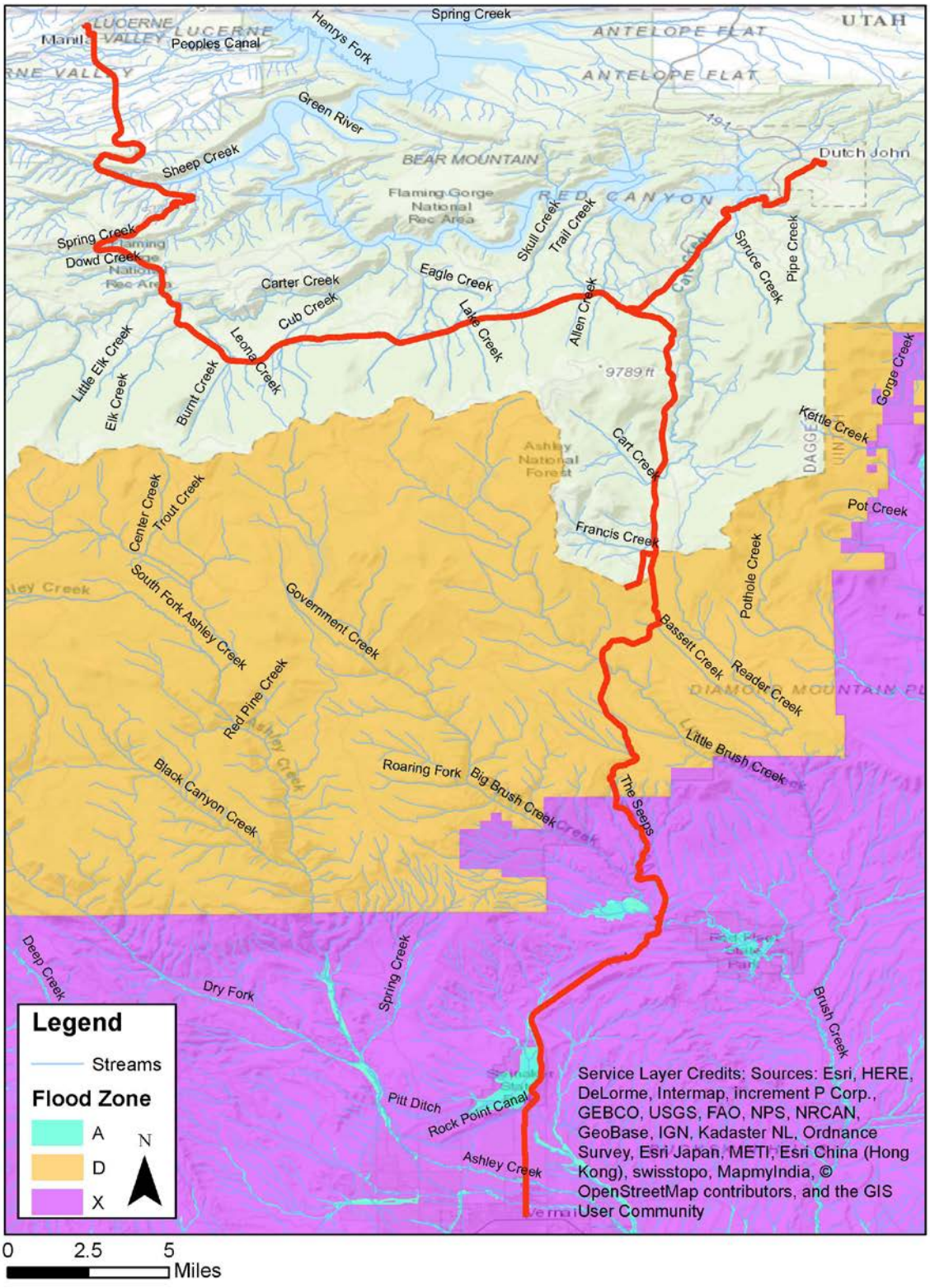

Figure 3. Floodplains/Flood Zones in the Project Area

Environmental Effects

No-Action Alternative

Under the No-Action Alternative, existing conditions would continue as at present. No construction activities would occur within the project area, therefore, there would be no impacts to the watershed or to floodplains or waters of the U.S., including wetlands, within the project area.

Proposed Action Alternative

Direct Effects

Watersheds and Water Quality

The potential for impacts to water quality would be limited to ground-disturbing activities during the construction period. The project is not likely to impact water quality or result in the degradation of watershed values due to its location within existing disturbed areas along the highways. The proposed project would not impact water quality in the area during construction due to the implementation of Best Management Practices (BMPs) to prevent siltation and other runoff from entering adjacent water bodies, which are identified below:

- Using silt fences, wattles and other sediment control devices to prevent sedimentation of waterways.
    - If construction occurs in the bottom of a bar ditch at grades above 2%, wattles will installed to prevent erosion and sediment entering the riparian areas.
    - To prevent erosion and sedimentation areas will be compacted post construction (if possible).
    - If possible, construction will not take place in the bottom of the bar ditch.
- Using soil stabilization measures to prevent soil erosion and help re-establish vegetation, such as mulch, geotextiles, etc. as directed by the Ashley National Forest
- Using watering and other fugitive dust control measures.
- Wetlands and riparian areas where boring will take place will be flagged prior to construction.
- No heavy equipment allowed in wetland or riparian areas.
- Refueling and maintenance of equipment should take place away hydrologic resources.
- A spill kit should be on site when construction around hydrologic resources is taking place.

Further, for BLM-administered lands, the project will adhere to the BLM's Green River Reclamation guidelines, which require a site specific reclamation plan for areas of disturbance on BLM-administered lands. This plan should, at a minimum, include a provision for stabilizing the area while work is occurring. A native and non-native vegetation mix that reflects the vegetation currently present in the project area locally-sourced seed mix should be used to help restore any of the local plant community affected on BLM-administered lands, which will help maintain the current watershed values.

There would be no impacts to water quality from operation of the utility once construction is completed. The proposed project would not affect municipal watersheds. Although the project is within a main watershed that feeds the Uintah Basin drinking water system, it is within already disturbed areas.

Floodplains

There would be no impact to floodplains nor would the project result in any changes to the ability of the floodplain to handle a 100-year flood event. The project would bore under waterways, which would avoid impacts to floodways; further, no structures would be placed within any floodplains associated with waterways in the project area.

Wetlands

The proposed project would be installed within a small area and would be designed so as to avoid impacts to the potential wetland areas that were identified during the survey. Impacts to all streams or other waterways within the project area will be avoided by boring underneath the streambed. No direct effects to wetlands or waters of the U.S. are anticipated. Due to the nature of the project, it would not alter or affect any water of the U.S., as there would be no impact to waterways that are connected to waters of the U.S. downgradient of this proposed action. No 404 permit would be needed and no coordination with the United States Army Corps of Engineers would be required.

Best Management Practices (BMPs) would be implemented during construction for the protection of water resources. Operation and Maintenance (O&M) operations would be limited in scope and nature, occurring on an as-needed basis, and would not adversely impact the hydrology of the project area. The proposed project would not impact water quality in the area due to the implementation of BMPs to prevent siltation and other runoff from entering adjacent water bodies, which are identified below:

- Using silt fences, wattles and other sediment control devices to prevent sedimentation of waterways.
    - If construction occurs in the bottom of a bar ditch at grades above 2%, wattles will installed to prevent erosion and sediment entering the riparian areas.
    - To prevent erosion and sedimentation areas will be compacted post construction.
    - If possible, construction will not take place in the bottom of the bar ditch.
- Using soil stabilization measures to prevent soil erosion and help re-establish vegetation, such as mulch, geotextiles, etc. as directed by the Ashley National Forest
- Using watering and other fugitive dust control measures.
- Wetlands and riparian areas where boring will take place will be flagged prior to construction.

Indirect Effects

No indirect effects to water quality, to floodplains, or to wetlands or waters of the U.S. are anticipated as a result of the proposed project. Water quality would be protected by the use of BMPs and design features during construction and the construction methods would protect the waters of the U.S., including wetlands, from impacts. No other construction within floodplains is anticipated as an indirect result of the project.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct or indirect impacts to identified wetlands or floodplains nor impact water quality, the project would not contribute to cumulative effects on hydrology in the project area.

Soils

Affected Environment

The project area covers nine Land Type Associations (LTA) due to its length. It begins on the South Face of the Uinta Mountains, running north across alternating sections of Stream Canyon, Parks Plateau, and Limestone Hills LTAs. It continues north along the boundary between Stream Canyon and Trout Slope. The route to Dutch John follows the Greendale Plateau, crossing Red Canyon, and ending in the Structural Grain LTA. The route to Manila follows the boundary between the Greendale Plateau and Trout Slope, crosses several canyons in the Red Canyon LTA, and finishes across the North Slope. See Figure 4 for the location of LTAs and the proposed route of the project. A description of each LTA is below;

- **Greendale Plateau (GP)** – This LTA consists of plateau lands in the eastern Uinta Mountains. These plateau lands are rolling and vary between shales and rocky upthrusts. Soils are predominantly sandy. Some meadows with shale components are susceptible to erosion and increased compaction.
- **Limestone Hills (LH)** – This LTA consists of scarp and dip limestone slopes on the south slope of the Uinta Mountains. These soils are on strongly sloping to moderately steep slopes. Soils are loams or cobbly silt loams. Construction activities affecting road beds on steep slopes could cause erosional issues.
- **North Flank (NF)** – This LTA includes dip and scarp slopes and intervening valleys along the north slope of the Uinta Mountains. Slopes are steep and soils are rocky, sandy, or silty loams with considerable rock content. Erosion is considered an issue only in areas with exceptionally steep slopes.
- **Parks Plateau (PP)** – This LTA consists of an upland mid-elevation plateau. The soils are located on rolling uplands and side-slopes. They have a heavy clay content but may include deep loams under trees.
- **Red Canyon (RC)** – This LTA consists of very steep canyon walls cut into quartzite. It also includes the alluvial bottomlands of tributary canyons to the Green River. Soils are very limited and much of the area consists of rock outcrops and rocky talus.
- **Stream Canyon (SC)** – This LTA consists of canyons along the eastern side of the south slope of the Uinta Mountains. Soils are often derived from glacial outwash and slump deposits with significant stone and cobble inclusions. Construction on steep slopes may cause erosion.
- **South Face (SF)** – This LTA consists of slopes on the south face of the Uinta Mountains. Gravel and cobble debris covers much of the area. Soils are predominantly shallow. Erosion from this unit can be high.
- **Structural Grain (SG)** – This LTA consists of high angle slopes on the north flank of the Uinta Mountains. Soils are generally sandy loams with clay deposits. Soils depths range from shallow to moderately deep.
- **Trout Slope (TS)** – This LTA consists of an uplifted residual plateau surface. It is predominantly a gently rolling upland. Soils are predominantly very deep heavy clays.

The proposed project is located adjacent to State Highways 191 and 44. These highways, if under the jurisdiction of the Forest Service, would be considered Level 5 roads under the USFS Road Maintenance Management System. In the case of these roads, the erosive capacity of the roadway is caused by runoff from the roadway and surrounding areas acting on the roadway embankment, cut or fill slopes, and roadside ditches. The area immediately adjacent to the road is unvegetated

and covered in road fill (gravel). Cut and fill slopes further away from the paved surface are vegetated and often include erosion controls such as gentle slopes or ditches cut along the slope to slow and reduce runoff. Soils under and in the immediate vicinity of these roadways has been compacted.

According to the BLM, there are also valuable leased minerals in the project area, such as oil, gas, gilsonite, oil shale, tar sands, coal and phosphate; locatable minerals, such as gold, coper, and uranium; and mineral materials, such as stone and aggregate.

Environmental Effects

No-Action Alternative

Under the No-Action Alternative, there would be no impacts to soils or other geological features due to a lack of construction activities within the project area.

Proposed Action Alternative

Direct Effects

The project would temporarily disrupt soils within the project area through trenching and the movement of heavy machinery. In areas with little to no slope, the trenching would occur up to 50 feet from the edge of pavement. In areas with more slope, the trenching would take place in the roadway prism (shoulder). Work in flat areas further away from the roadway would cause a slight increase in compaction in the affected soils from the weight of the machinery during construction activities. This work in flat areas would not increase erosion as these areas contain no slope and very small drainage areas. These areas would be reseeded with a native and non-native vegetation mix that reflects the vegetation currently present in the project area to restore ground cover and re-establish the disturbed soils.

Work in the roadway shoulder would not increase compaction or erosion beyond what has already been caused by the construction of the roadway. Unpaved roadway shoulders already have a relatively high erosive capacity because they are shielded only by gravel covering and are impacted by concentrated runoff from the roadway. Trenching in the shoulder would remove the gravel covering temporarily, replacing it after the conduit is installed.

The project will use the following BMPs to reduce temporary and long-term erosional effects:

- Using silt fences, wattles and other sediment control devices to prevent sedimentation of waterways,
- Using soil stabilization measures including reseeding to prevent soil erosion and help re-establish vegetation,
- Using watering and other fugitive dust control measures, and
- Adherence to appropriate practices involving the prevention and clean-up of any spills or releases of hazardous materials.

Further, for BLM-administered lands, the project will adhere to the BLM's Green River Reclamation guidelines, which require a site specific reclamation plan for areas of disturbance on BLM-administered lands. This plan should, at a minimum, include provision for stabilizing the area while work is occurring. A native and non-native vegetation (locally-sourced) mix that reflects the vegetation currently present in the project area should be used to help restore any of the local plant community affected on BLM-administered lands, which will help maintain the current watershed values.

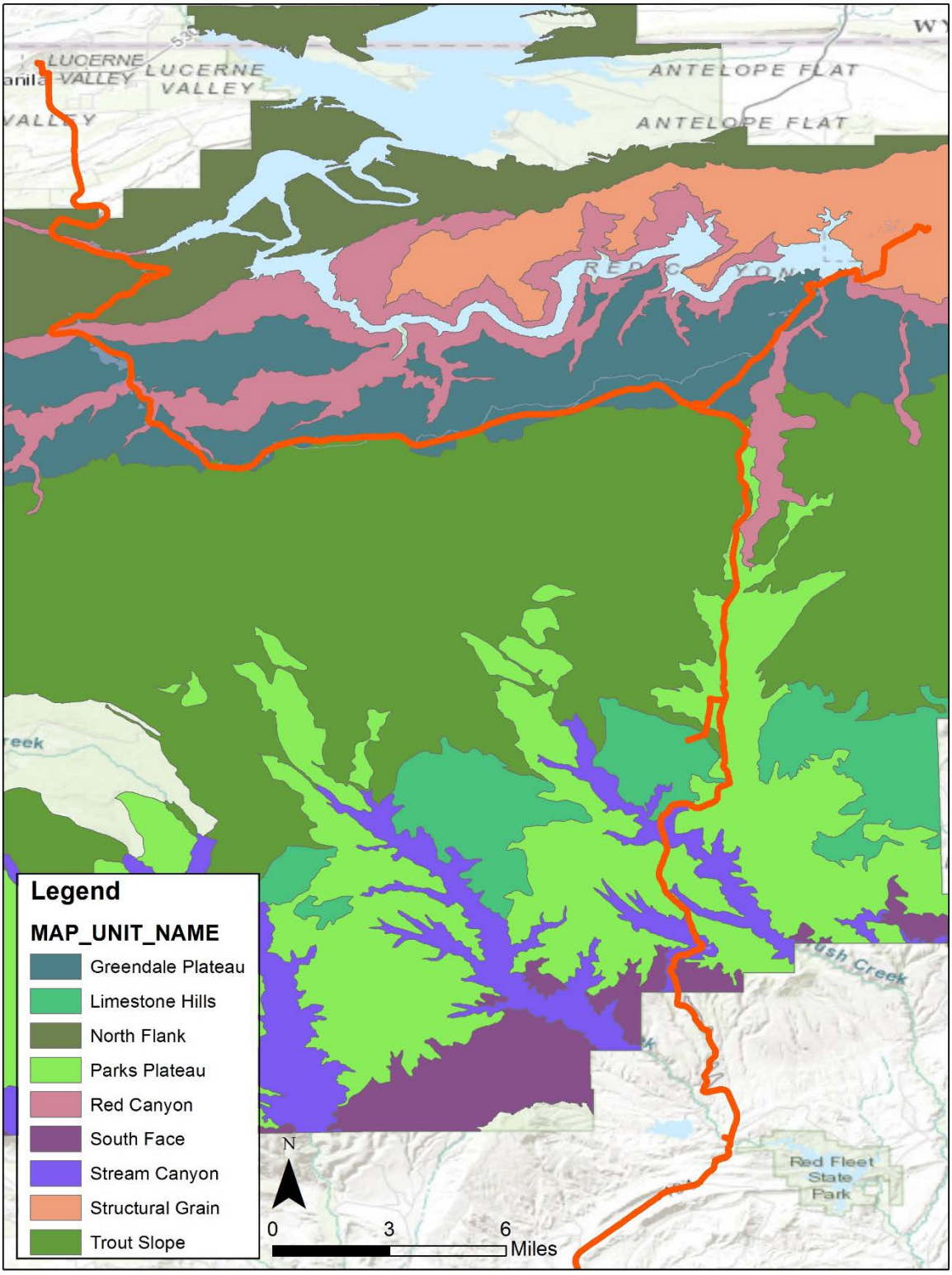

Figure 4. Soil Classifications in the Project Area

The proposed project would have no direct conflicts with the valuable, locatable, or mineral commodities in the project area.

Indirect Effects

As trenching would not increase erosion of soils due to the use of appropriate BMPs, would not take place on steep slopes, and would not concentrate runoff, no indirect effects to soils stability or composition are anticipated as a result of the proposed project.

Cumulative Effects

The spatial bounds of the analysis includes the project area itself because this is the area that could be most impacted from project activities. The temporal bounds for the analysis includes the construction of US-191 and US-44, which was constructed through the same soil classifications as the Proposed Action to 20 years into the future.

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. The project would have a minor effect on soil compaction, but would not increase erosion rates. An increase in soil compaction is part of a trend for certain areas of the forest to become increasingly compacted over time. There are no other past, present, or reasonably foreseeable projects that when combined with this project would create a cumulative effect.

Recreation and Visual Resources

Affected Environment

US-191 and SR 44 provide the major sources of access to the eastern Ashley National Forest. Major recreational areas accessible from these highways include Steinaker Reservoir, Red Fleet Reservoir, Red Cloud Loop, Sheep Creek Geologic Loop, and Flaming Gorge National Recreation Area including Flaming Gorge Dam and Flaming Gorge Reservoir. In addition, the roads provide access to numerous developed campgrounds, interpretive sites, and trailheads. The project area is not within an inventoried roadless area. The majority of the project area is also within the Flaming Gorge National Recreation Area (NRA).

The Recreation Opportunity Spectrum (ROS) is a land management tool used to classify lands based on the different recreation settings they provide. The system considers several factors when classifying an area of land including remoteness, access, naturalness, facilities and site management, social encounters, visitor impacts, and visitor management. The setting, activities, and opportunities for experiences have been arranged along a continuum divided into six classes: primitive, semi-primitive (motorized and non-motorized), roaded natural, rural, and urban (USDA Forest Service ROS Users Guide).

The ROS classes were inventoried and identified in the Ashley National Forest's 1986 Forest Plan, and were updated in 2008. The study area is classified as Roaded Natural. The Roaded Natural classification is characterized in the presence of a better-than-primitive road or railroad within ½ mile. The natural setting may have modifications which range from easily noticed to strongly dominant. There is strong evidence of designed roads and/or highways. Structures generally remain scattered, visually subordinate, and unnoticed to observers on sensitive travel routes. Structures may include power lines and other installations (USDA Forest Service ROS Users Guide).

Impacts on visual resources are measured by how a given management activity meets adopted visual quality objectives (VQOs). According to the 1986 Forest Service Plan, the VQOs for the project area are set at inventoried level for the various management prescriptions that cover the project area.

For the portion of the project that passes through BLM jurisdiction, the project is located within Special Recreation Management Area (SRMA) Red Mountain-Dry Fork, which provides opportunities for Off-Highway Vehicles (OHV) and non-motorized trail activities. The Proposed Alternative would be restricted to the existing roadway prism and therefore would not impact recreational values or opportunities within the project area. Traffic flow would be maintained throughout the construction period, utilizing a flagger as needed.

The Proposed Action is located within the BLM's Visual Resource Management (VRM) Class 2 and 3. The project is limited to the existing roadway prism and would not impact scenic values or opportunities within the project area. Construction of the project would occur over two summer seasons and would not introduce new elements to the viewshed. The majority of the fiber optic cable would be buried, with aerial installation in a few areas on existing poles.

Environmental Effects

No Action Alternative

Under the No Action Alternative, there would be no construction activities that would interfere with recreation activities or that would have impacts on the visual quality of the project area.

Proposed Action Alternative

Direct Effects

The proposed project is limited to the immediate vicinity of the existing roadway prism for US-191 and US-44, with the exception of those limited areas where aerial installation of the fiber-optic conduit is proposed. There are no developed recreation facilities within the project area. The fiber-optic conduit would avoid impacting either Steinaker or Flaming Gorge reservoirs, either directly or indirectly, and would not impair camping, hiking, or other recreational activities on the Forest. Construction is anticipated to begin in May 2017. The Dutch John portion of the project is proposed to be completed by the beginning of the 2017 school year. The Manila spur is proposed to be completed as soon as possible thereafter. All roads will be kept open during construction with at least one lane of travel, using flaggers or sign boards to maintain traffic flow. Access to all recreational properties will be maintained throughout construction and after construction. There would be no impact to recreational facilities, developed recreation, or dispersed recreation.

The project would not alter the viewshed in the Forest, as the fiber-optic conduit would either be buried or would be placed on existing utility poles, with no new features being introduced into the visual aspect from either the roadway or from other viewpoints in the Forest. Temporary impacts due to construction-related activities would be limited to the construction period.

No work that endangers, interferes, or conflicts with traffic or access to work sites shall be performed until a plan for satisfactory warning and handling of traffic has been submitted by the contractor and approved by the Forest Service and Utah Department of Transportation. Construction signing for traffic control shall conform to the Manual of Uniform Traffic Control Devices (MUTCD). Further, areas for staging operations and storage of materials shall be approved by the Forest Service.

Indirect Effects

There would be no indirect effects on recreational resources as a result of the Proposed Action. The Proposed Action may have an indirect effect on visual resources in the project area in the immediate area of the roadway, as UDOT would like to utilize the fiber optic cable to improve safety in the project area by installing traffic monitoring stations along both US-191 and US-44, which would require the installation of poles in various locations along the roadways to support traffic cameras. These poles would be in random locations and would not constitute a new linear feature in the project area. Further, such poles are consistent with common roadway features.

Cumulative Effects

Since there are no long-term direct or indirect effects to recreational opportunities, there would be no cumulative effects. The proposed future installation of traffic monitoring stations would contribute to impacts on the visual quality of the project area, but would be sporadic and limited to the roadway prism itself.

Non-Native Invasive Species

Executive Order 13112 directs federal agencies to expand and coordinate their efforts to combat the introduction and spread of plants and animals not native to the United States. Non-native flora and fauna can cause substantial changes to ecosystems, upset the ecological balance, and cause economic harm to our nation's agricultural and recreational sectors. Since roadway corridors provide opportunities for the movement of invasive species through the landscape, it is important that roadway projects include measures to combat the introduction and spread of invasive species.

Affected Environment

The State of Utah recently updated its noxious weed list. As of 2016, Utah lists a total of 54 weeds on the noxious weed list. See the attached *State of Utah Noxious Weed List and the County Declared Noxious Weeds in Utah (in addition to the State Noxious Weed List)*. Both Uintah and Daggett Counties have their own lists of invasive species specific to each county. No specific surveys for non-native invasive species were conducted. Plant species that were noted in the field survey for the wetland survey consists mainly of upland introduced and native grasses. The vegetation changes in the interstate right-of-way as it approaches wetter areas where Narrowleaf Willow (*Salix exigua)*, Baltic Rush (*Juncus balticus)*, and Nebraska Sedge (*Carex nebrascensis)* dominate.

Environmental Effects

No Action Alternative

Under the No Action Alternative, existing conditions would continue to exist. Due to the lack of ground disturbing activities associated with the Proposed Action, there would be less of an opportunity for the spread of invasive species. Further, Forest Service management plans would still be in place to counteract the spread of invasive species.

Proposed Action Alternative

Direct Effects

Due to the ground disturbance that would occur during construction, there is an opportunity for the introduction and spread of non-native invasive species for the duration of the construction activities. Due to the nature of the project, the ground disturbance will be minimal, consisting of a

small trench approximately 5 feet deep and 16 inches wide within the roadway prism. The small area of disturbance would minimize the area of potential impact and keep it restricted to an area that is already disturbed and not in a pristine state.

The proposed project would implement the applicable ANF Forest Plan standards and guidelines for Noxious Weeds Management, Aquatic and Riparian Habitat Management, Wildlife and Fish Habitat Management, and Vegetation Management.

Implementation of the Invasive Plant/Noxious Weed Control Plan would reduce the potential for the spread of invasive species within the project area, especially *Bromus tectorum* which is of concern due to its potential as a fire hazard. Best Management Practices would be implemented during construction to protect the integrity of the plant communities in the area and to help prevent introduction of noxious and invasive plant species, which would include:

- Plan activities to limit the potential introduction and spread of non-native invasive species (NNIS) prior to construction;
- Select locally native species for revegetation and restoration activities;
- Inspect and clean clothing, footwear and gear for soils, seeds, plant parts, or invertebrates before and after activities;
- Prior to moving equipment out of an infested area and into an uninfested area, clean soils, seeds, plant parts, or invertebrates from exterior surfaces, to the extent practical, to minimize the risk of transporting propagules;
- Revegetate disturbed soils as soon as feasible to minimize NNIS establishment;
- Allow natural revegetation of the ground layer to occur only where site conditions permit;
- Ensure the species specified in the plan are the ones being used; and
- Monitor the revegetation site for NNIS.

Further, all construction equipment shall be pressure washed before entering National Forest System lands. The removal of mud and debris from treads, tracks and undercarriage, with emphasis on axles, frame, cross-members, motor mounts, and underneath steps, running boards, and front bumper/brushguard assemblies would be required. The purpose is to reduce or eliminate the transportation of noxious weeds, which is required by Federal and State regulations.

These measures would prevent the spread of non-native invasive species within the project area, either from those species that are already present within it or from those species that may be imported from outside area. To mitigate for vegetation impacts, reseeding and revegetation utilizing native species and non-native vegetation mix that reflects the vegetation currently present in the project area will be performed as a part of the project, which would help prevent new infestations of weeds.

Indirect Effects

The only potential for this project to impact non-native invasive species would result from the ground-disturbing activities during construction. Due to the implementation of the BMPs during construction to prevent the spread of any existing non-native invasive species or the introduction of new non-native invasive species (including revegetation with native and non-native vegetation mix that reflects the vegetation currently present in the project area plant species to prevent NNIS establishment), no indirect effects are anticipated from the proposed project.

Cumulative Effects

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Since the project would have no direct or indirect impacts to invasive species, the project would not contribute to cumulative effects on the potential spread of non-native invasive species in the project area.

List of Contributors and Agencies Consulted

The following individuals contributed to the preparation of this Environmental Assessment:

US Forest Service	
Scott Bingham	Engineering, Lands, and Minerals Staff Officer and FS Project Contact
LeAnn S. Colburn	Forest Environmental Coordinator and Review Team Leader
Ronald Brunson	Fisheries Biologist
Allen Huber	Ecologist (Botany and Weeds)
David Olsen	Wildlife Biologist
Ryan Mower	Hydrologist
Jeffrey A. Rust	Forest Archaeologist
David Herron	Forest Geologist and Paleontologist
Stephanie Anderson	Recreation, Visuals, and NRA Specialist
Valton Mortenson	Roads Engineer
Gina Reese	Lands and Realty Specialist
Donald L. Jaques	Forest Partnership Coordinator
Bureau of Land Management	
Margo Roberts	Air Quality/Natural Areas/Socio-economic/Environmental Justice/Farmlands/Lands/Wilderness/Wastes
Soni Snow	
David Christensen	Archaeologist
Bill Civish	Recreation/Visual Resources
Dallas Nutt	Paleontology
Dixie Sadlier	Wildlife
James Hereford II	Hydrology/Soils
Blaine Tarbell	Fuels/Fire Management
Joseph Islas	Geology/Minerals/ Energy Production/Paleontology
Christine Cimiluca	Botany
Tracey Hart	Livestock grazing and Rangeland Health Standards
Jerrad Goodell	Wetlands
David Palmer	Forestry
Bureau of Reclamation	
Ben Woolf	Group Chief, Lands
C. Shane Mower	Environmental Protection Specialist
Zachary Nelson	Archaeologist
State Institutional Trust Lands Administration	
Scott Bartlett	Resource Specialist
Kristine Curry	Archaeologist
Kenneth Wintch	Lead Staff Archaeologist
Utah Department of Transportation	
Rich Allen	Region 3 NEPA/NHPA Specialist
Horrocks Engineers	
Judy Imlay	Environmental Specialist
Peter Steele	Archaeologist
Aaron Woods	Archaeologist
Ryan Pitts	Wetlands, T&E/Wildlife/Botany
Nathan Clark	Wetlands
Marley Haupt	T&E/Wildlife

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UTAH GREATER SAGE-GROUSE APPROVED RESOURCE MANAGEMENT PLAN AMENDMENT (ARMPA) REQUIRED DESIGN FEATURES (RDF)		
FOR LANDS AND REALTY		
Sub Category	**Appendix C – RDF**	**Commitment/What are you doing to address the RDF?**
Roads	Design roads to an appropriate standard no higher than necessary to accommodate their intended purposes.	N/A
	Coordinate road construction and use among ROW holders.	N/A
	Construct road crossing at right angles to ephemeral drainages and stream crossings.	N/A
	Restrict vehicle traffic to only authorized users on newly constructed routes (e.g., use signing and gates).	N/A
	Use dust abatement practices on roads and pads.	Watering and other fugitive dust control measures would be used during construction
Operations	Cluster disturbances associated with operations and facilities as closely as possible.	Fiber lines would be placed in existing roadway right-of-way that has already been disturbed; some areas may use an abandoned gas line.
	Where technically and financially feasible, bury distribution powerlines and communication lines within existing disturbance.	Fiber lines would be placed in existing roadway right-of-way that has already been disturbed; some areas may use an abandoned gas line.
	Place infrastructure in already disturbed locations where the habitat has not been fully restored.	Fiber lines would be placed in existing roadway right-of-way that has already been disturbed; some areas may use an abandoned gas line.
	Micro-site linear facilities to reduce impacts to GRSG habitats.	Fiber lines would be placed in existing roadway right-of-way that has already been disturbed; some areas may use an abandoned gas line.
	Locate staging areas outside of GRSG habitat to the extent possible.	Staging areas would be located outside of GRSG habitat.
	Consider placing pipelines under or immediately adjacent to a road or adjacent to other pipelines first, before considering co-locating with other ROW.	Fiber lines would be placed in existing roadway right-of-way that has already been disturbed; some areas may use an abandoned gas line.

UTAH GREATER SAGE-GROUSE APPROVED RESOURCE MANAGEMENT PLAN AMENDMENT (ARMPA) REQUIRED DESIGN FEATURES (RDF)		
FOR LANDS AND REALTY		
Sub Category	**Appendix C – RDF**	**Commitment/What are you doing to address the RDF?**
	Control the spread and effects of non-native plant species (Gelbard and Belnap 2003; Berquist et al. 2007).	Best Management Practices would be implemented during construction to protect the integrity of the plant communities in the area and to help prevent introduction of noxious and invasive plant species, as set forth in the EA.
Reclamation	Include restoration objectives to meet sage-grouse habitat needs in reclamation practices/sites.	Any areas disturbed during construction would be reseeded with a native and non-native vegetation mix that reflects the vegetation currently present in the project area to restore ground cover and re-establish the disturbed soils.
	Restore disturbed areas to final reclamation to pre-disturbance landform and desired plant community.	Any areas disturbed during construction would be reseeded with a native and non-native vegetation mix that reflects the vegetation currently present in the project area to restore ground cover and re-establish the disturbed soils.
	Irrigate interim reclamation as necessary during dry periods. Utilize mulching techniques to expedite reclamation.	Any areas disturbed during construction would be reseeded with a native and non-native vegetation mix that reflects the vegetation currently present in the project area to restore ground cover and re-establish the disturbed soils.