



Environmental Assessment

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TRIBAL BROADBAND CONNECTIVITY PROGRAM

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**Oglala Sioux Tribe of the
PINE RIDGE INDIAN RESERVATION, SOUTH DAKOTA**

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1.0 Executive Summary

Palmetto Engineering and Consulting (PEC) has prepared this National Environmental Policy Act (NEPA) Environmental Assessment (EA) on behalf of the Oglala Sioux Tribe of the Pine Ridge Indian Reservation in support of the National Telecommunications & Information Administration's (NTIA) Tribal Broadband Connectivity Program (TBCP). The Oglala Sioux Tribe was awarded an NTIA Broadband Infrastructure and Deployment Grant (NT22TBC0290065) under the Tribal Broadband Connectivity Program to build a fixed wireless network that will provide last-mile connectivity to 1,821 unserved Native American households with broadband speeds up to 100 Mbps/20 Mbps all within the Pine Ridge Reservation located in Oglala Lakota County, Bennett County and the southern half of Jackson County in southwestern South Dakota and a portion of Sheridan County in northwestern Nebraska.

Palmetto Engineering & Consulting (PEC) prepared this EA using project design and location details provided by the Applicant or an authorized representative. PEC also conducted research and/or consultation with relevant interested parties (as required) to further assess the proposed project's potential impacts on the human environment.

The OST Broadband Infrastructure Deployment Project will deploy a 5G network across 18 communications structures operating in the 2.5 GHz EBS spectrum bands and approximately 100 miles of buried, high-speed fiber optic cable in existing, pre-disturbed rights-of-way (ROWS) across the Pine Ridge Indian Reservation in South Dakota. Figure 1: New and Existing Structure Sites & Fiber Route below depicts both the new and existing structure locations and the mainline fiber route to be constructed.

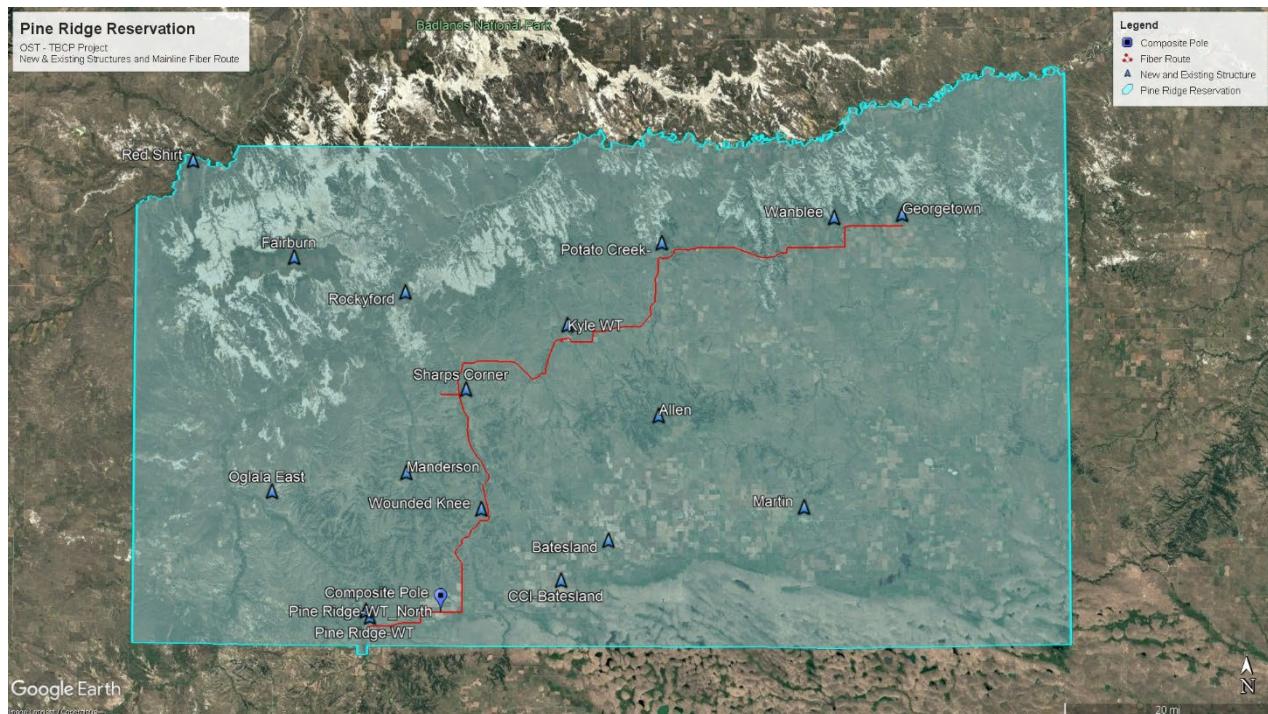


Figure 2: Structure Sites and Fiber Route with Microwave Backhaul Links below depicts new and existing tower locations, mainline fiber route, and associated microwave backhaul links.



Note: In the image above, new and existing tower and pole locations, as well as microwave backhaul links, are highlighted in green. The mainline fiber route is highlighted in blue, and the network Point of Presence (POP) is marked with a red star.

The network will provide services focused on tribal - residential, business, and institutional - users. 5G Broadband services of up to 100/20 Mbps will be offered, meeting and exceeding the minimum speed thresholds established in this NTIA Broadband initiative.

Network Architecture

The fixed wireless 5G network for the Pine Ridge Reservation, designed to provide last-mile connectivity across Pine Ridge, comprises eighteen access structures, seventeen of which also function as radio access network (RAN) sites. These sites integrate the existing 2.5 GHz EBS spectrum to provide broadband services consisting of:

Access Network: Connects user devices to the fixed wireless network, providing last-mile connectivity with broadband speeds up to 100 Mbps/20 Mbps.

- One fifty-foot composite pole
- Seventeen RAN sites
 - Eleven new towers (180 feet to 295 feet in height)
 - Six existing structures (79 feet to 259 feet in height)

Backhaul Network: Transfers data between the Access Network and the Core Network, facilitating efficient communication between users and services (Figure 2, Table 1).

- Twelve microwave links
- Eight fiber backhaul sites connected through approximately 100 miles of fiber

Core Network: Connects the RAN and backhaul networks to the broader internet, facilitating efficient data exchange between users and services.

- 5G Packet Core
- Connects 17 RAN sites and 1 pole via microwave links or fiber backhaul
- Aggregates traffic from the Access Network via backhaul connections

Core Site Summary

The core network is the backbone of the broadband infrastructure, connecting 18 access structures (17 RAN sites + 1 pole) via microwave links or fiber backhaul to facilitate efficient data exchange between users, services, and the broader internet. The core site will house the packet core for the 5G system, enabling residential broadband, enhanced mobile broadband, and support for emerging IoT services while ensuring optimal performance, security, and scalability. Directly connected to the mainline fiber route via dedicated fiber links, the core site ensures low-latency connectivity with upstream providers, further bolstered by microwave links offering diverse backhaul connections for enhanced network resiliency. This design ensures optimal performance, security, and scalability for the Oglala Sioux Telecommunications Network, delivering improved connectivity and enhanced services to its community.

Tower Network Summary

The project will be comprised of seventeen RAN sites (eleven new towers and six existing structures) to cover the Pine Ridge Indian Reservation target areas, integrating the existing 2.5 GHz EBS spectrum per *Figure 2* above. Nine RAN Sites will be served with last-mile microwave backhaul, all connected to the core site in Pine Ridge. Eight RAN sites will be backhauled with fiber spanning 100 miles from the Georgetown RAN site to the Core site in Pine Ridge. An additional pole will be used to complete backhaul to the core site. Each new tower site will require an access road, a tower foundation, an equipment cabinet, a fence with a gate, and electrical utility.

All new tower sites will be guyed towers with varying site dimensions, depending on the height, as shown in Table 1 below. The foundation for the towers will consist of a central pedestal, varying in length and dug to various depths relative to tower height, to support the weight of the tower. A chain-link fence will be placed around the tower to prevent intruders from vandalizing the site or injuring themselves while climbing the tower. Tribal utility will build aerial electric lines up to the new tower sites by placing new poles.

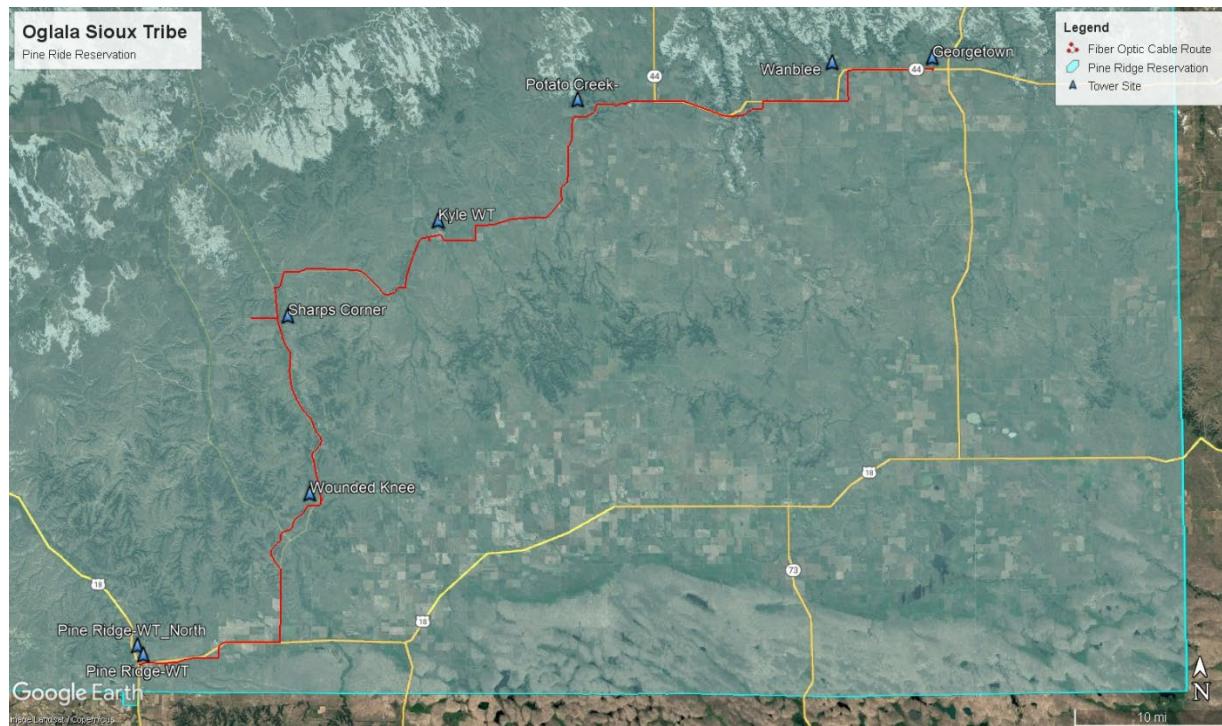
The existing structures comprise five existing 79-foot water towers located across the reservation and one existing site with a 259-foot collocated tower. These sites will not require any ground disturbance. Structure details are listed in Table 1 below.

Table 1: New and Existing Structure Details

New RAN Sites	Latitude & Longitude	Height	Dimensions	Sq. Ft	Acre	Backhaul
Allen	43.30206N, 102.00600W	295'	311.6' x 357.9'	111,522	2.56	MW
Batesland	43.13056N, 102.10107W	180'	190.24' x 218.7'	41,605	0.96	MW
Fairburn	43.51914N, 102.69851W	295'	311.6' x 357.9'	111,522	2.56	MW
Georgetown	43.57843N, 101.54241W	180'	190.24' x 218.7'	41,605	0.96	Fiber
Oglala East	43.19698N, 102.73499W	180'	190.24' x 218.7'	41,605	0.96	MW
Manderson	43.22231N, 102.48374W	180'	190.24' x 218.7'	41,605	0.96	MW
Potato Creek	43.53943N, 101.99863W	295'	311.6' x 357.9'	111,522	2.56	Fiber
Red Shirt	43.65147N, 102.89429W	180'	190.24' x 218.7'	41,605	0.96	MW
Rockyford	43.47153N, 102.48671W	295'	311.6' x 357.9'	111,522	2.56	MW
Sharps Corner	43.33808N, 102.37066W	180'	190.24' x 218.7'	41,605	0.96	Fiber
Wounded Knee	43.17393N, 102.33950W	295'	311.6' x 357.9'	111,522	2.56	Fiber
Existing Site RAN Upgrades	Latitude & Longitude	Height	Site Type	Owner	Backhaul	
CCI-Batesland	43.0753, -102.19	259'	Collocate	Crown Castle, Inc.	MW	
Kyle	43.4268, -102.179	79'	Water Tower	Oglala Sioux Tribe	Fiber	
Martin	43.1754, -101.732	79'	Water Tower	Oglala Sioux Tribe	MW	
Pine Ridge	43.0237, -102.551	79'	Water Tower	Oglala Sioux Tribe	Fiber	
Pine Ridge North	43.0322, -102.559	79'	Water Tower	Oglala Sioux Tribe	Fiber	
Wanblee	43.574, -101.671	79'	Water Tower	Oglala Sioux Tribe	Fiber	
Composite Pole	Latitude & Longitude	Height	Dimensions	Sq. Ft	Acre	Backhaul
Great Plains - Denby	43.047056N, 102.417584W	50'	30'x30'	900	0.02	MW

Mainline Fiber Route Summary

The 100-mile mainline fiber backhaul, which connects eight RAN sites to the Core network, will follow the utility corridor of Mni Wiconi Water System, which traverses the Pine Ridge Reservation from north to south and east to west, for a total of 149 km, as shown in Figure 3 below. Fiber construction will be performed using static plowing and directional boring. Static plowing is an industry-standard process by which a path approximately three inches wide and thirty-six inches deep is created, fiber cable is installed in the ground, and then the soil is packed back down to mitigate loose sediments. Directional boring is an industry-standard process that minimizes soil disturbance to an area of approximately sixty square feet when boring a conduit for the fiber optic cable. Existing vegetation in the area will serve as the sediment control, and the area will be backfilled, compacted, and seeded as required by governing agencies. All fiber will be located within previously disturbed and existing ROWs. Proper avoidance measures will mitigate any disturbance of objects or significant sites. Since the fiber backhaul will follow and leverage an existing, pre-disturbed ROW used by Mni Wiconi Water, the deployment is expected to have no environmental and/or cultural impacts. Figure 3: Mainline Fiber Backhaul on Existing ROW Connecting 8 RAN Sites below depicts the mainline fiber backhaul that connects the eight existing and new RAN tower sites.



Proposed Action Summary

The proposed action is based on the lack of broadband access on the Pine Ridge Reservation and uses the most reasonably accessible areas. Based on the proposed projects, a total of four alternatives were considered during the EA process:

1. Proposed Action: Collocation/modification of existing towers, construction of new towers with associated compounds/equipment and access/utility easements, and a mix of fiber optic cable and wireless technologies to provide comprehensive broadband coverage.
2. Underground Cable: Although initially considered, this option was deemed impractical due to substantial geological constraints and local terrain challenges, making installation difficult and costly.
3. Aerial Cable: Initial consideration was given to deploying fiber optic cable via overhead utility poles. However, this method proved infeasible for the project due to the inconsistent availability of suitable poles in remote areas, potential conflicts with other utilities, and an increased risk of cable damage from harsh weather conditions and wildlife activity common to the region's rugged terrain, as well as concerns regarding visual impacts on the landscape.
4. No Action Alternative: This option was dismissed as it would leave Pine Ridge Reservation largely unserved, failing to address the project's primary purpose of expanding broadband access.

While all alternatives were considered, the Proposed Action was selected for comprehensive analysis and final design because it would provide telecommunications enhancements to the community with minimal infrastructure constraints, lower costs, and a lower environmental impact.

Because the proposed project utilizes federal funds, NTIA must fulfill obligations under the NEPA and other applicable local, state, and federal regulations. In compliance with these regulations, the following EA has been prepared. The implementation of NEPA requires a systematic, interdisciplinary approach to project planning and implementation, and emphasizes that the environmental impacts of federally funded

projects be given serious consideration in the decision-making process. The EA evaluates the potential social, economic, and environmental effects from the proposed project, and was prepared with input from stakeholder agencies.

Since the proposed project is on-Reservation, the Bureau of Indian Affairs (BIA) may determine that they have a Federal Action under NEPA, primarily regarding ROWs for access on and through tribal lands. In such case, NTIA's Proposed Action would be the same as that of BIA for purposes of BIA's NEPA review.

The results of the EA indicate that, with appropriate mitigation and conservation measures, the Proposed Action would not result in any significant adverse effects to the natural, cultural, or human environment. The findings of the EA are summarized in the following table:

Table 2: Effect Comparison of Alternatives

Resource Area	Proposed Action	No Action Alternative
Noise	Less than Significant Impacts.	No Impacts.
Air Quality	Less than Significant Impacts.	No Impacts.
Geology and Soils	Less than Significant Impacts.	No Impacts.
Water Resources	No Impacts.	No Impacts.
Biological Resources	May Affect, Not Likely to Adversely Affect.	No Impacts.
Historic and Cultural Resources	No Effect/No Adverse Effect	No Impacts.
Aesthetic and Visual Resources	Less than Significant Impacts.	No Impacts.
Land Use	Less than Significant Impacts.	No Impacts.
Infrastructure	Beneficial Impacts.	Significant Impacts.
Socioeconomic Resources	Beneficial Impacts.	Significant Impacts.
Human Health and Safety	Beneficial Impacts.	Significant Impacts.

This EA has been completed based upon site information and the review of readily available information obtained from commercial services, government agencies, and/or other sources as described herein. This EA was prepared in accordance with the NTIA's NEPA implementing procedures, Federal Communications Commission (FCC; 47 CFR §1.1301-1 .1320), and guidance provided by NTIA. The objective of the EA is to assess whether the proposed action is likely to result in a significant environmental impact, for which an Environmental Impact Statement (EIS) would be required. The U.S. Department of Commerce, NTIA is the agency responsible for awarding BIP grant funds for the proposed covered project including this proposed action and is lead agency for NEPA. In addition, Section 106 of the National Historic Preservation Act of 1966 (NHPA), and its implementing regulations found in 36 CFR Part 800, regulates assessment of cultural resources for all federal undertakings. Specific to telecommunication facilities, FCC's Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (47 CFR Part 1, Appendix B) and the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process (47 CFR Part 1, Appendix C) further stipulate the review process for cultural resources and amend 47 CFR, Part 1, Subpart I, rule section 1.1307(a)(4).

2.0 Purpose and Need

The purpose of the project is to deploy high speed internet to the underserved populations of the Pine Ridge Reservation, and the action is needed due to insufficient access to broadband. On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act into law, which included a significant investment of \$65 billion to help close the digital divide and ensure that all Americans have access to reliable, high speed, and affordable broadband. According to NTIA, the purpose of the Act is to lay critical groundwork for widespread access and affordability of broadband, creating new jobs and

economic opportunities, providing increased access to healthcare services, enriching educational experiences of students, and improving overall quality of life for all Americans.

The Pine Ridge Reservation, South Dakota has been identified as having a significant deficiency of broadband coverage. This installation will improve wireless communications and connectivity coverage to tribal communities across the reservation as well as improve the coverage to areas of the reservation that currently do not have access. By providing this coverage, the Pine Ridge Reservation, its businesses, citizens, and students will receive the high level of access consistent with larger urban areas. The project will provide much-needed wireless communications and connectivity coverage to public institutions and create opportunities for broadband connections to both businesses and households in this underserved region of South Dakota. By providing wireless communications and connectivity coverage, the project is expected to facilitate rural economic development, job creation, education, and improve access to health care and emergency services.

3.0 Proposed Action and Alternatives

3.1 Proposed Action

The proposed project aims to enhance telecommunications infrastructure across the Pine Ridge Indian Reservation by deploying fiber backhaul, constructing new tower sites, installing a composite pole, and upgrading existing towers. The project will involve the following:

- installing approximately one hundred miles of buried fiber
- seventeen Radio Access Network (RAN) sites
 - eleven new tower sites
 - six existing structure upgrades, including one tower collocation
- one new fifty-foot composite pole

Buried Fiber

The project will install approximately 100 miles of buried fiber to connect eight RAN sites to the core network. The fiber backhaul will follow the utility corridor of the Mni Wiconi Water System, which traverses the Pine Ridge Reservation from north to south and east to west for a total of 93 miles. Construction methods will include static plowing, which creates a path approximately 3 inches wide and 36 inches deep, where the fiber cable is installed, and directional boring, which is used to avoid natural resources, waterways, etc., and disturbs approximately 60 square feet when boring in the conduit for the fiber optic cable. All disturbed areas will be restored to their original condition, and no new ground disturbance will occur outside the existing ROWs.

New Tower Sites

The project will construct eleven new tower sites to support microwave links and fiber backhaul. Each new tower site will require minimal clearing to accommodate the site foundation and an access road to facilitate construction and maintenance. The towers will be guyed towers ranging in height from 180 feet to 295 feet, with varying site dimensions based on tower height. The foundation for each tower will consist of a central pedestal sized based on tower height and installed at a depth to support the height and weight of the tower. Chain-link fences will be installed around towers to protect against vandalism, injuries, and intruders. The tribal utility will build aerial electric lines to the new tower sites by installing new poles.

Towers exceeding 200 feet in height will be evaluated for compliance with FAA obstruction marking and lighting requirements. Where required, lighting will be installed in accordance with FAA Advisory Circular

70/7460-1 to ensure airspace safety while minimizing visual and environmental impacts. Lighting will be selected and configured, where possible, to reduce impacts on migratory birds and maintain nighttime visibility standards. In addition, avian diverters will be installed on associated infrastructure to further reduce the potential for bird collisions (Table 1-A below).

Site Name	Longitude & Latitude	Height	Dimensions	Sq. Ft	Acre	Backhaul
Allen	43.30206N, 102.00600W	295 ft. (90m)	311.6' x 357.9'	111,522	2.56	MW
Batesland	43.13056N, 102.10107W	180 ft (55m)	190.24' x 218.7'	41,605	0.96	MW
Fairburn	43.51914N, 102.69851W	295 ft. (90m)	311.6' x 357.9'	111,522	2.56	MW
Georgetown	43.57843N, 101.54241W	180 ft. (55m)	190.24' x 218.7'	41,605	0.96	Fiber
Oglala East	43.19698N, 102.73499W	180 ft. (55m)	190.24' x 218.7'	41,605	0.96	MW
Manderson	43.22231N, 102.48374W	180 ft. (55m)	190.24' x 218.7'	41,605	0.96	MW
Potato Creek	43.53943N, 101.99863W	295 ft. (90m)	311.6' x 357.9'	111,522	2.56	Fiber
Red Shirt	43.65147N, 102.89429W	180 ft. (55m)	190.24' x 218.7'	41,605	0.96	MW
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Sharps Corner	43.33808N, 102.37066W	180 ft. (55m)	190.24' x 218.7'	41,605	0.96	Fiber
Wounded Knee	43.17393N, 102.33950W	295 ft. (90m)	311.6' x 357.9'	111,522	2.56	Fiber

Composite Pole

A fifty-foot composite pole will be installed as a freestanding structure. To ensure stability, the pole will have a foundation consisting of either a concrete footing or helical anchors, depending on site conditions. A handhole will be installed at the pole site to provide access for maintenance, testing, and future upgrades of the fiber backhaul infrastructure (Table 1-B below).

Site Name	Longitude & Latitude	Height	Dimensions	Sq. Ft	Acre	Backhaul
Great Plains - Denby	43.30206N, 102.00600W	50 ft. (15m)	30'x30'	900	.02	MW

Existing Structures

The project will utilize 5G and microwave wireless system collocation on six existing structures. These sites will not involve any ground disturbance. The CCI-Batesland site will be collocated with Crown Castle, Inc., and the other five sites are water towers owned by the Oglala Sioux Tribe (Table 1-C below).

Site Name	Longitude & Latitude	Height	Site Type	Owner	Backhaul
CCI-Batesland	43.0753, -102.19	259 ft (79m)	Collocate	Crown Castle, Inc.	MW
Kyle	43.4268, -102.179	79 ft. (24m)	Water Tower	Oglala Sioux Tribe	Fiber
Martin	43.1754, -101.732	79 ft. (24m)	Water Tower	Oglala Sioux Tribe	MW
Pine Ridge	43.0237, -102.551	79 ft. (24m)	Water Tower	Oglala Sioux Tribe	Fiber
Pine Ridge North	43.0322, -102.559	79 ft. (24m)	Water Tower	Oglala Sioux Tribe	Fiber
Wanblee	43.574, -101.671	79 ft. (24m)	Water Tower	Oglala Sioux Tribe	Fiber

Construction is anticipated to begin in or after September 2025 and will be completed no later than July 31, 2026. Construction activities will generally occur between the hours of 7:00 a.m. and 6:00 p.m. to minimize potential construction-related disturbances. All project components will be located entirely on tribally owned lands, with no anticipated impacts to federal lands managed by the National Park Service (NPS), U.S. Forest Service, or Bureau of Land Management¹. The project has been reviewed using the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) system in accordance with the Endangered Species Act of 1973, and no impacts to federally listed species or critical habitats are

¹ NTIA Environmental and Permitting Application & Figure South Dakota Planning Area and Surface Ownership

anticipated. The project will be implemented in a manner that minimizes environmental disturbance and ensures compliance with all applicable federal, state, and Tribal regulations.

3.2 No Action Alternative

The purpose of the "no action" alternative is to evaluate the environmental impacts if the proposed TBCP-funded project does not proceed. Under this scenario, current conditions on the Pine Ridge Reservation would remain unchanged, with no construction, ground disturbance, or new telecommunications equipment installation. In the short term, environmental impacts would be negligible, as natural and cultural resources would remain undisturbed. However, the existing broadband infrastructure would stay limited, primarily serving major population centers like Pine Ridge, Porcupine, and Kyle. Connectivity would rely on copper-based DSL lines, some fiber optic connections, and wireless networks using 3G, LTE, and emerging 5G technologies. This limited access would perpetuate the digital divide, impeding educational opportunities, telehealth services, workforce development, public safety initiatives, and economic growth. The Tribe's efforts to achieve digital equity and technological self-determination would also remain constrained.

In contrast, the proposed action aims to expand broadband access, improving connectivity in remote areas. This would enhance educational opportunities by providing greater access to online learning resources, boost healthcare services through telemedicine advancements, and stimulate economic growth by opening new business opportunities and attracting investments. By addressing the digital divide, the project supports the Tribe's goals of achieving digital equity and technological self-sufficiency, fostering sustainable development and empowering the community.

3.3 Alternatives

In evaluating alternative broadband deployment strategies for Pine Ridge Reservation, four options were initially considered during the EA process. However, after careful evaluation of technical feasibility, environmental impact, cost-effectiveness, and alignment with grant requirements, the Proposed Action was selected as the most suitable option.

- **Proposed Action:** Collocation/modification of existing towers, construction of new towers with associated compounds/equipment and access/utility easements, and a mix of fiber optic cable and wireless technologies to provide comprehensive broadband coverage. This approach was chosen due to its ability to:
 - Overcome geographical challenges posed by Pine Ridge Reservation's rugged terrain and varied landscape
 - Utilize existing infrastructure where possible to minimize environmental impact and reduce costs
 - Leverage the high capacity of fiber optic cable in conjunction with wireless technologies to deliver reliable, high-speed internet access to unserved areas
- **Underground Cable:** Although initially considered, this option was deemed impractical due to substantial geological constraints and local terrain challenges, making installation difficult and costly.
- **Aerial Cable:** Initial consideration was given to deploying fiber optic cable via overhead utility poles. However, this method proved infeasible for the project due to inconsistent availability of suitable poles in remote areas, potential conflicts with other utilities and increased risk of cable damage from harsh weather conditions and wildlife activity common to the region's rugged terrain, as well as concerns regarding visual impacts on the landscape.

- **No Action Alternative:** This option was dismissed as it would leave Pine Ridge Reservation largely unserved, failing to address the project's primary purpose of expanding broadband access.

In conclusion, the Proposed Action best addresses the unique challenges faced on Pine Ridge Reservation while providing a cost-effective, environmentally responsible solution for delivering broadband services to unserved areas.

3.4 Alternatives Eliminated from Further Discussion

During the EA process, several alternative broadband deployment strategies were explored for Pine Ridge Reservation. After thorough evaluation, two of these alternatives were deemed not suitable for further consideration due to significant drawbacks (the overhead cable alternative and the underground cable alternative).

Fiber to the Premise-Underground Cable

Although initially considered, deploying fiber optic cable via underground trenches or directional drilling proved impractical due to substantial geological constraints and local terrain challenges on Pine Ridge Reservation. These included high rock content and steep slopes, making installation difficult, expensive, and time-consuming. In comparison, the Proposed Action leverages a mix of fiber optic cable and wireless technologies. Fiber is deployed where feasible, in previously disturbed ROWs, minimizing environmental impact and taking advantage of existing infrastructure. Wireless technologies supplement fiber coverage, providing reliable service even to remote and hard-to-reach areas. For these reasons, the buried fiber optic cable alternative would not be considered feasible, and it is not discussed further in this EA.

Fiber to the Premise-Aerial Cable

Initially contemplated as an alternative to buried methods, deploying fiber optic cable via overhead utility poles proved infeasible due to inconsistent availability of suitable poles in remote and sparsely populated areas of Pine Ridge Reservation. This limitation made it difficult to achieve broad service area coverage. Additionally, there were potential conflicts with other utilities and an increased risk of cable damage from harsh weather conditions and wildlife activity common to the region's rugged terrain. There were also concerns regarding visual impacts on the landscape, which could negatively affect tourism and cultural resources. The Proposed Action addresses these limitations by prioritizing underground fiber deployment where feasible, reducing visual impacts compared to aerial methods. It supplements fiber coverage with wireless technologies, ensuring broad service area coverage even in remote locations without adequate utility poles. Furthermore, it minimizes environmental impacts through targeted infrastructure development and coordination with stakeholders. For these reasons, the aerial fiber-optic cable alternative would not be considered feasible, and it is not discussed further in this EA.

4.0 Affected Environment and Environmental Effects

4.1 Noise

Noise pollution is sound that becomes unwanted with normal activities, disrupts normal activities, or diminishes one's quality of life. U.S. Environmental Protection Agency (EPA) coordinated all federal noise control activities through its Noise Control Act of 1972 42 U.S.C. § 4901 et seq. EPA phased out the office's funding in 1982 as part of a shift in federal noise control policy to transfer the primary responsibility of regulating noise to state and local governments.

Under the Proposed Action, short term direct impacts from mechanized construction equipment (pickup trucks, excavators, dump trucks, bulldozers, vibratory plows, Horizontal drilling machines, etc.) would

occur during the tower and equipment installation phase. Typical construction equipment can cause noise levels above 70 db. These impacts would be temporary and minor at the location of construction. As such, mitigation methods include limiting the hours of construction to occur only during normal business hours (7am to 6pm). Workers should follow OSHA requirements for worker protection (i.e. wearing hearing protection when required). There are no churches, schools, or other sensitive receptors within the immediate vicinity of the proposed tower sites. While there is some residential development in the general area, it is separated from the tower site by buffers such as hills, trees, or highways.

Due to the project being entirely within the Pine Ridge reservation, the tribal officials have legal authority over noise control. Unlike municipalities that may enforce decibel limits automatically, the Pine Ridge reservation operates through a complaint-based system. Noise complaints (if any) will be monitored, and resolved by the construction site manager. The Proposed Action would not introduce significant long-term changes to the noise environment at each location. Noise impacts resulting from the project are not considered to be significant, and no indirect impacts are anticipated.

Under the No Action Alternative, there would be less than significant impact from noise.

4.2 Air Quality

The EPA has set national ambient air quality standards (NAAQS) for six of the following criteria pollutants (US EPA, 2022): ozone (O₃), particulate matter (PM 2.5 and 10), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb). Under these standards, a geographic location with pollutant levels below air quality standards is said to be in "attainment," while higher levels are in "non-attainment." New construction and conversion activities which are located in "non- attainment" or "maintenance" areas, as determined by the EPA, may need to be modified or mitigation measures developed and implemented to conform to the State Implementation Plan (US EPA, 2022e). The Clean Air Act (42 U.S.C. 7401 et seq.) prohibits federal assistance to projects that are not in conformance with the SIP. According to the EPA Green Book Nonattainment Areas for Criteria Pollutants, the state of South Dakota is not located within a non-attainment area for any major pollutants (US EPA, 2022c).

At the state level, South Dakota Legislature article 74:36:04:02.01 - *Minor source operating permit exemption*, states that an air emitting source is exempt from obtaining a minor source operating permit is "a source that has the potential to emit 25 tons or less per year of any criteria pollutant, except lead, before the application of control equipment."

Construction activities associated with the proposed project would generate particulate matter from soil disturbances and diesel-powered equipment (direct impacts). Air emissions from construction vehicles and equipment would be minor and temporary resulting in negligible impacts to air quality. Ground disturbing activities such as brush clearing, trenching, excavating, and drilling would temporarily generate fugitive dust emissions. To minimize the effects of fugitive dust during construction, dust suppression via water trucks or other methods may be implemented. Post construction areas will be re-vegetated where necessary.

The tower sites will have back up propane powered generators, each sized appropriately to admit less than 25 tons of emissions or less per year. Post-construction during the operational period, there will be no significant emissions of air pollutants at any of the proposed sites. The construction of the project, and operations of towers will not cause any damaging, hazardous gases, or fumes into the atmosphere.

Under the No Action Alternative, there would be less than significant impact to air quality.

4.3 Geology and Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service's (NRCS) Web Soil Survey soils around the southwest region of South Dakota contain sedimentary layers of tertiary soil. The makeup of Tertiary soils depends heavily on the parent materials from which they formed, this area of South Dakota includes silts, sands, clays, shales, and limestones.

In the west, near the edge of the Black Hills and Badlands, geology is defined by sedimentary layers that surround the ancient core of the Black Hills uplift. While the central Black Hills lie slightly north, their geological influence extends into the southwest. The rocks here were deposited during the Paleozoic and Mesozoic eras. These were uplifted during the Laramide Orogeny, a mountain-building event that occurred roughly 50 to 70 million years ago.

Tertiary soils generally have moderate to high erosion potential, especially when they lack vegetation or are disturbed. Fine-grained types like silty or clay-rich soils can seal during rain, increasing runoff and erosion, while sandy types are easily eroded by wind and water. Expansive clays may crack and worsen erosion during storms. Their vulnerability is greatest on slopes, in areas with intense rainfall, or where the soil has been exposed or poorly managed.

Techniques that will be used to install the cable will be plowing and directional boring. There will be no earth moving of any substantial amount of soil. A typical plowing blade, which is not more than 2-3" in width, acts like a knife during plowing soil, installing duct before packing it back down and consequently does very minimal temporary disruption to the landscape. Directional boring will also be used to aid in avoidance measures, and minimize the disruption to the landscape. All industry standard procedures, all state and local entity guidelines for permitting and construction practices will be followed to ensure very little impact on the landscape. The depth of our cable is at a minimum of 36 inches, and proper burial standard will avoid any areas that may experience harsh desedimentation. The placement of the cable will be avoiding any other existing utilities, and cultural or historical resources.

All new tower site pad dimensions will consist of a central pedestal varying in lengths and dug to various depths relative to height to support the weight of the tower. All tower site pads will be constructed using industry standards, state and local guidelines, and construction practices to ensure little environmental impact while ensuring a sturdy foundation. The construction of the tower pads will involve grading and subgrade preparation, where the land is shaped and compacted to create a stable, level surface. Crushed stone or gravel is then layered and compacted to form the structural pad to withstand weight, and erosion. A small concrete foundation is excavated and poured with reinforced steel for anchor bolts, to allow guy wire attachments. Power and communication utility will be installed, while a grounding system is built around the foundation. Additional concrete pads may be installed for shelters, generators, or other equipment, with all infrastructure compacted and secured. All sites have been previously cleared so no deforestation will occur.

Post construction, the areas would be re-vegetated to reduce erosion and fugitive dust. Geologic and soil impacts resulting from the project are not considered to be significant and will not include any soil pollution.

Under the No Action Alternative, there would be less than significant impact to the geology of the area.

4.4 Water Resources and Wetlands Summary

Below, the proposed project route and all proposed tower sites have been reviewed through FEMA FIRM maps, NPS Wild and Scenic Rivers maps, EPA watershed maps, and USFWS' wetlands mapper, to determine potential effects the proposed project will have on the following sensitive waters. After review,

there would be less than significant impacts as a direct result of the proposed projects.

4.4.1 Surface Water (i.e., Lakes and Rivers)

Multiple waterbodies were found along the proposed route such as Freshwater Emergent Wetlands, Forested/Shrub wetlands, ponds, streams, and riverine. The proposed fiber installation will be entirely within existing ROWs. However, if water bodies are identified in the field during construction, OST (Oglala Sioux Telephone) has committed to avoiding all water bodies using bore methods. As such, the project is not anticipated to result in the discharge of fill into, or loss of the waters of the U.S. (WOTUS). All tower sites have been reviewed and determined to have no waterbodies within directly withing the proposed APE. The proposed project has been determined to have little to no effect on any waterbodies.

4.4.2 Floodplains

Facilities located in a floodplain may be damaged or destroyed by a flood or may change the flood handle capability of the floodplain, or the pattern, or magnitude of the flood flow. The relevant floodplain for most applicant projects is an area which has a 1-percent chance of a flood occurrence in a given year. The flood of this interval is referred to as the 100-year flood or the base flood. The floodplain management guidelines require Federal agencies to apply the 0.2 percent or 500-year flood occurrence standard to the location of "critical facilities." Critical facilities include health care facilities, emergency service facilities, and areas used for the storage of hazardous materials. A review of FEMAs FIRM maps found that due to the project being within a reservation, no flood data for FIRM has been completed.

4.4.3 Sole Source Aquifers, Coastal Zone, Estuary, and Intertidal Areas

Using the EPA's Sole Source Aquifer map, no aquifer was found near the projects area of potential effect, and no groundwater recharge areas are known to exist on any of the project sites. The Pine Ridge Reservation is located within the landlocked state of South Dakota, and is not mapped within a coastal zone, estuary, or inter-tidal area. As such, none of the project sites are mapped within a coastal zone, estuary or inter-tidal area.

4.4.4 Wild and Scenic Rivers

According to the NPS Wild and Scenic Rivers map, the proposed fiber route and tower sites are not located near a wild or scenic river. The eleven proposed and six existing tower sites are located throughout the Prine Ridge reservation. The Mainline Fiber will run parallel along highways in previously existing and disturbed ROWs and intersects multiple waterbodies, small-scale streams, and creeks. Although the route will cross some waterbodies, impacts will be avoided by using the bore method, which will mitigate any large-scale earth movement. If necessary, we will consult with the US Army Corp of Engineers or other authorized agency regarding waterbodies to acquire Section 404 approval if boring to avoid waterbodies, including wetlands is not sufficient. Using the bore method to avoid any waterbodies, there would be little to no significant adverse environmental impacts to these resources.

4.4.5 Wetland Habitats

As discussed above, at least four South Dakota government agencies have varying responsibilities dealing with wetlands. These agencies regulate wetlands through surface water quality management and §401 certification under the CWA. The four agencies coordinate with all CWA §401 certification and §404 permits with the USACE.

Federal wetland permitting authority under Section 404 of the CWA is the jurisdiction of the USACE, and generally applies to activities involving the discharge of dredged or fill material and certain discharges

associated with excavation into waters of the U.S. (WOTUS), including wetlands. Certain projects for which the USACE have jurisdictional authority may be eligible for a General Permit (GP) provided best management practices are met. Specifically, utility line activities are covered by GP9, and covers the construction, maintenance, repair, and removal of utility lines. GP9 also requires the use of best management practices (BMPs), including all necessary erosion control devices, silt fences, hay bales, rock dams, wattles, erosion controls, etc. during all ground disturbing activities to prevent discharges into wetlands.

The USFWS Wetlands Inventory (NWI) has been reviewed to determine if any wetlands exist along the proposed route. Although multiple wetlands were found along the proposed route such as Freshwater Emergent Wetland, Forested/Shrub, and riverine, the proposed fiber installation will be entirely within existing ROWs. However, if wetlands are identified in the field during construction, OST (Oglala Sioux Telephone) has committed to avoiding all wetlands using bore installation methods. As such, the project is not anticipated to result in the discharge of fill into WOTUS, including wetlands. All tower sites have been reviewed and determined to have no wetlands within directly withing the proposed APE.

4.5 Biological Resources

4.5.1 Vegetation

The USDA Forestry Service Geodata clearinghouse tree map was used to determine the amount and types of tree species withing the projects areas of potential affect. The proposed areas of the reservation are forested with mixed deciduous and coniferous trees consisting of 80% Ponderosa pines, 10% cottonwoods, and the other 10% consisting of elm, bur, and junipers.

Minimal clearing is anticipated at structure sites, and no significant deforestation is expected as part of the Proposed Action. Where new tower sites require access roads, some limited tree removal may be necessary; however, all efforts will be made to avoid large-scale vegetation impacts. Native vegetation will be preserved to the extent practicable, and disturbed areas will be restored or revegetated with appropriate native species where feasible.

4.5.2 Threatened and Endangered Species

Palmetto Engineering and Consulting (PEC) evaluated the proposed broadband installation's potential to impact federally and state-protected species and their associated habitats. This evaluation relied on species and habitat data maintained by the USFWS. The following summarizes PEC's review and coordination with applicable agencies.

In accordance with the Endangered Species Act (ESA), PEC conducted a review using the USFWS Information for Planning and Consultation (IPaC) system on April 10, 2025, to identify federally listed species and designated critical habitat in the vicinity of the project area (see Appendix C). PEC also used the USFWS Critical Habitat Portal to identify critical habitat areas in proximity to the proposed fiber route, new tower locations, and existing on-reservation tower sites.

Using the IPaC resource list, the following were identified within the project area:

- Three federally listed threatened species
- Two federally listed endangered species
- Three proposed species
- Zero designated critical habitat areas

Table 3: IPaC Species List

Species	Scientific Name	Status	Critical Habitat	Project Impact Assessment
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered	None	No effect
Rufa Red Knot	<i>Calidris canutus rufa</i>	Threatened	Proposed (no overlap)	No effect
Whooping Crane	<i>Grus americana</i>	Endangered	Final (no overlap)	No effect
American Burying Beetle	<i>Nicrophorus americanus</i>	Threatened	None	May Affect, Not Likely To Adversely Affect
Monarch Butterfly	<i>Danaus Plexippus</i>	Proposed Threatened	Proposed (no overlap)	No effect
Suckley's Cuckoo Bumble Bee	<i>Bombus suckleyi</i>	Proposed Endangered	None	No effect
Western Regal Fritillary	<i>Argynnis idalia occidentalis</i>	Proposed Threatened	None	No effect
Western Prairie Fringed Orchid	<i>Platanthera praecox</i>	Threatened	None	May Affect, Not Likely To Adversely Affect

All construction associated with the proposed project—including fiber installation and the development of new and existing tower sites—will occur within previously disturbed and actively managed areas on the Pine Ridge Reservation. Fiber installation will be confined to maintained ROWs that are subject to regular vegetation management, such as mowing. Tower pads are sited in cleared or previously developed locations that do not support native prairie, mature forest stands, or wetland features. No tree clearing, excavation in intact prairie, or work within cave environments is proposed. Construction methods will include plowing, horizontal directional drilling, and controlled excavation, minimizing additional disturbance across all project components.

Given these conditions, the following species are not expected to be present within the project area, and no adverse effects are anticipated:

- The **Northern Long-eared Bat** is primarily impacted by white-nose syndrome (WNS), a fungal disease that has caused significant population declines in cave-dwelling bat species across North America. This species typically hibernates communally in caves and mines during winter months and roosts in trees—often within mature forested habitats—during the active season. Based upon the project's IPaC submission and a standing analysis, the USFWS has issued a determination of “no effect” for the Northern Long-eared Bat in relation to the proposed project. This conclusion reflects the absence of suitable roosting or hibernation habitat within the project area and the limited scope and nature of construction activities.
- The **American Burying Beetle** is known to occupy a broad range of habitats, including mature forests, grasslands, scrublands, and areas with hardwood vegetation. While the species demonstrates wide vegetational tolerance, it requires well-drained, loose soils and the presence of small vertebrate carrion for reproduction. No designated critical habitat exists for this species due to the variability of its habitat use. Research by Sikes and Raithel (2002) notes that many threats to the species remain speculative and warrant further study.
- The **Suckley's Cuckoo Bumble Bee** relies on host bees, particularly the Western Bumble Bee (*Bombus occidentalis*), by infiltrating their nests and exploiting the stored resources to feed its larvae. The significant population declines of its primary host species have contributed to the Suckley's Cuckoo Bumble Bee's proposed endangered status. It is primarily found in open

grasslands, shrublands, meadows, and other areas with abundant floral resources. Due to the nature and location of the project, there will be minimal affect to this type of habitat.

- The **Western Regal Fritillary** is proposed for listing as threatened due to declining populations and habitat fragmentation. It inhabits high-quality native prairie and grassland ecosystems, where it relies on violets (*Viola* spp.) as larval host plants and a diverse array of flowering forbs for adult nectar sources. The species is highly sensitive to land conversion, pesticide use, and the loss of native prairie vegetation. No critical habitat has been designated for this species, and the proposed project will have little to no effect to prairie vegetation.
- The **Western Prairie Fringed Orchid** is found in remnant tallgrass prairie and mesic grasslands with calcareous or sandy soils. It requires open landscapes with limited tree cover, specific hydrological conditions, and intact native vegetation communities. The species is highly sensitive to habitat loss, changes in water availability, and competition from invasive species. None of these suitable environments will have an effect as a direct result of the proposed project.

Based on the nature of the proposed project, the lack of suitable habitats within the project area, and the implementation of BMPs, PEC concludes that the project will have no effects or is not likely to adversely affect any federally listed species or designated critical habitats.

4.5.3 Migratory Birds, Associated Habitats & the Bald and Golden Eagle Protection Act

PEC evaluated the proposed project for potential impacts to avian species protected under the Migratory Bird Treaty Act (MBTA; 16 U.S.C. §§ 703–712), the Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. §§ 668–668d), and the Birds of Conservation Concern (BCC) list, as designated by the USFWS.

As part of this evaluation, PEC reviewed the USFWS IPaC system on April 10, 2025. The IPaC report identified eight migratory bird species of conservation concern that may occur in the project area or its vicinity. These species and two other federally listed avian eagle species are identified below.

Table 4: Migratory Bird Species of Conservation Concern Identified in the Project Area.²

Common Name	Scientific Name	Breeding Season	Status
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Oct 15 – Aug 31	Non-BCC, BGEPA, MBTA
Golden Eagle	<i>Aquila chrysaetos</i>	Dec 1 – Aug 31	Non-BCC, BGEPA, MBTA
Chimney Swift	<i>Chaetura pelasgica</i>	Mar 15 – Aug 25	BCC, MBTA
Ferruginous Hawk	<i>Buteo regalis</i>	Mar 15 – Aug 15	BCC, MBTA
Grasshopper Sparrow	<i>Ammodramus savannarum perpallidus</i>	Jun 1 – Aug 20	BCC, MBTA
Lark Bunting	<i>Calamospiza melanocorys</i>	May 10 – Aug 15	BCC, MBTA
Marbled Godwit	<i>Limosa fedoa</i>	May 1 – Jul 31	BCC, MBTA
Northern Harrier	<i>Circus hudsonius</i>	Apr 1 – Sep 15	BCC, MBTA
Prairie Falcon	<i>Falco mexicanus</i>	Mar 1 – Jul 31	BCC, MBTA
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	May 10 – Sep 10	BCC, MBTA

The proposed project includes new and existing telecommunications towers. However, these towers are not expected to pose a significant collision risk to migratory birds, particularly nocturnally migrating species that are more vulnerable to taller, guy-wired, and/or lighted structures because PEC has designed

² Data source: U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) <https://ipac.ecosphere.fws.gov/>

the towers to align with USFWS guidance ³ to reduce avian mortality.

Construction activities will occur within previously disturbed and actively maintained areas, such as ROWs and pre-designated tower pads. No work is proposed in undisturbed grasslands, wetlands, or riparian habitats typically associated with breeding or foraging activities of the listed BCC species.

Based on the scope, location, and design of the project—including tower specifications, habitat characteristics, and implementation of standard avoidance measures—PEC concludes that the proposed action is not likely to adversely affect migratory birds protected under the MBTA or BGEPA.

4.6 Historic and Cultural Resources

The NHPA and the Advisory Council on Historic Preservation's implementing regulations, 36 CFR Part 800, require Federal agencies to take into account the effect their actions may have on historic properties prior to carrying out such actions. NTIA, PEC, and THPO evaluated the proposed fiber installation for potential effects on historic, archeological, or cultural sites, including Native American Traditional Cultural Properties, listed or eligible for listing on the National Register of Historic Places, or land identified by archeologists as having high potential to contain archeological resources.

4.6.1 Archaeological Resources

PEC, on behalf of NTIA, consulted with the Oglala Sioux THPO regarding the project. THPO had reviewed the proposed project taking into account project locations, construction methods, and proposed conservation measures and BMPs. Additionally, THPO reviewed this EA document in relation to THPO's records and knowledge of project areas with regard to cultural resources and historic properties. THPO concurred with the recommendations that the project be determined to have "No Adverse Effect" pursuant to 36 CFR § 800.5. The concurrence was based on the project's fiber route being installed primarily within previously disturbed ROWs, selection of new structure sites to minimize potential impacts and using conservation measures and BMPs, and existing structure sites requiring minimal to no clearing or ground disturbance. It was THPO's opinion that "[t]hese factors, along with the comprehensive mitigation measures outlined in the EA, demonstrate a strong commitment to minimizing adverse effects on historic properties and important tribal resources. The project's careful planning and consideration of potential impacts ... help mitigate the potential for adverse effects on previously undocumented resources" (see Appendix D).

Note, in the unlikely event that unanticipated Historic Properties, cultural artifacts, archeological deposits, or human remains are inadvertently encountered during the proposed construction and associated excavation activities, all ground disturbing activities must halt immediately, and the appropriate Federal, Tribal, State, and local agencies and officials will be contacted, in accordance with Tribal, Federal, and State regulations (36 CFR 800.13(b)).

4.6.2 Architectural Resources

New Sites

On behalf of THPO, PEC conducted a thorough review of new site locations for the project using the South Dakota State Historic Preservation Office's Cultural Resource Geographic Information Database (CRGRID)⁴ public database. This review helped assess the proximity of proposed sites to state and national registry historical sites, allowing PEC to identify any potential impacts on historic architectural resources.

³ <https://www.fws.gov/sites/default/files/documents/usfws-communication-tower-guidance.pdf>

⁴ <https://experience.arcgis.com/experience/c7ddd1e9226c4376a5a56c970d2f749b/>

No new broadband infrastructure sites were found to be located within historic districts or in the immediate vicinity of national or state registered historic properties. However, one new site, Batesland, was identified as being situated less than half a mile (approximately 0.8 kilometers) from a national record-eligible building, namely, the Old Agency House. To mitigate any potential impacts at this location:

- The broadband infrastructure will be installed in an area that is already developed and contains some structures.
- Limited clearing will be required for the pad and access road, as the site is not surrounded by pristine or untouched landscapes.
- The properties are separated by a highway (U.S. Route 18), which further minimizes any potential visual or physical impacts on the Old Agency House.

Existing Sites

Existing sites for the broadband infrastructure project are predominantly structures owned by the Oglala Sioux Tribe. These locations will require minimal disturbance during the installation of broadband equipment:

- No major disturbance is expected, as these sites are already developed and contain structures.
- Limited brush clearing, similar to routine maintenance tasks like mowing or trimming vegetation, may be required at some sites.
- Access roads leading to existing sites will also see minimal disturbance, as they primarily serve maintenance purposes and won't experience significant traffic increases due to the broadband project.

4.6.3 Native American Traditional, Cultural or Religious Resources

Because this project takes place entirely on the Pine Ridge Reservation, there were no additional tribes notified of the proposed project. PEC and Oglala Sioux staff have worked with the tribal council and the THPO office to ensure the proper amount of public notification occurs for these projects. The resulting coordination with the council and THPO did not result in the identification of any Native American Traditional, Cultural, or Religious Resources; therefore, there are none that are expected to be impacted by the project.

4.7 Aesthetic and Visual Resources

The Pine Ridge Reservation boasts a diverse landscape rich with natural beauty, cultural significance, and scenic views. Fortunately, none of the sites selected for this broadband infrastructure project are situated within national or state parks, nor do they intersect with national scenic trails or impact any registered historic properties listed in the National Register of Historic Places (NPS, 2023b). Furthermore, no parks or designated recreational areas have been identified at the proposed tower locations. The minimal aesthetic and visual impacts resulting from this project can be attributed to several factors:

- Tower Placement: Eleven new towers have been strategically planned on tribally owned lands to maximize coverage and minimize visual intrusion into the surrounding landscape. Tower heights range from 180 to 295 feet, with careful consideration given to avoid residential concentrations, cultural sites, and important vistas.
- Consideration of Viewshed: Throughout the planning process, careful consideration has been given to preserve the natural beauty of the Reservation by ensuring that the proposed action will result in no significant direct or indirect impacts to aesthetic and visual resources.
- Utilization of Existing Structure: Six existing towers will be upgraded, minimizing new visual clutter in

the landscape while improving broadband connectivity. By utilizing existing infrastructure, the project aims to lower the environmental impact and preserve the Reservation's visual character.

Under the No Action Alternative, aesthetic and visual resources would remain unaltered, as no new broadband infrastructure developments would occur within these sensitive areas.

4.8 Land Use

The Pine Ridge Reservation, encompassing approximately 2.87 million acres of tribally owned land, consists primarily of rangeland used for livestock grazing, with additional areas dedicated to conservation and forest management. Scattered residential and commercial developments, along with numerous culturally significant sites protected by federal and Tribal laws, are also present on the Reservation. The proposed broadband deployment project aims to enhance telecommunications infrastructure within this landscape while minimizing environmental impacts.

The project involves constructing eleven new wireless tower sites (ranging from 180 to 295 feet in height), one composite pole site, upgrading six existing structures, including a collocated tower, and installing approximately 100 miles of buried fiber optic cable primarily within previously disturbed ROWs. The project has been reviewed using NTIA data and Tribal land use plans, confirming all sites are on tribally owned lands outside wilderness or protected habitats.

The closest airport is Pine Ridge Airport (IEN), approximately 2.3 miles east of Pine Ridge, with Chadron Municipal Airport (CDR) about 60 miles southwest (see Figure 8). The project requires FAA notification due to tower heights up to 295 feet exceeding the 200-foot threshold. FAA Form 7460-1 will be submitted prior to construction to evaluate any navigational hazards and ensure compliance with marking and lighting requirements.

The proposed project is not expected to result in significant adverse impacts to existing land use patterns on the Pine Ridge Reservation. Infrastructure will primarily be sited within previously disturbed ROWs or existing utility corridors, minimizing new ground disturbance and avoiding undisturbed rangeland, forested areas, and culturally sensitive sites. Temporary disruptions during construction may include limited access restrictions, noise, and minor vegetation removal near tower sites or along fiber routes, but are expected to be short-term and confined to small footprints.

The presence of new towers may alter the visual character of some areas, particularly where tall structures are introduced into predominantly open or rural landscapes. However, careful planning has been undertaken to avoid residential concentrations, cultural sites, and important vistas, reducing the potential for visual intrusion.

OST and OLT are committed to ongoing engagement with Tribal departments, environmental stewardship agencies, and cultural and historic preservation entities. This collaboration will continue throughout the planning, permitting, construction, and operation phases to ensure alignment with federal and tribal regulations, minimize disruptions to cultural and natural resources, and address any community concerns.

No permanent conversion of rangeland, agricultural, conservation, or cultural lands is anticipated. The project does not require rezoning, land acquisition, or displacement of existing land uses.

Under the No Action Alternative, no impacts would occur to land use.

4.9 Infrastructure

The Pine Ridge Reservation's infrastructure supports local communities and services through a network of federal, state, county, and Tribal roads, many of which are unpaved and vary in condition. Electrical service is primarily provided by a local rural cooperative, while water and wastewater systems range from centralized in population centers to decentralized in remote areas. Telecommunications infrastructure is limited, consisting mainly of legacy copper lines, microwave systems, and a few broadband towers and fiber segments. Broadband coverage and capacity remain insufficient, leaving large portions of the Reservation unserved or underserved.

The proposed project aims to expand high-speed internet access by deploying approximately 100 miles of buried fiber optic cable within existing ROWs using plowing and directional boring techniques to minimize ground disturbance. This component will be supplemented by:

- Eleven new towers up to 295 feet tall, strategically located to maximize coverage and minimize visual impact.
- One composite pole site, designed to blend with the surrounding environment and minimize tower shadow flicker.
- One collocation site on an existing structure, maximizing use of existing infrastructure.
- Upgrades to five existing water towers with wireless broadband equipment, leveraging these structures for minimal environmental impact.

Power and communications equipment will be installed at each site, with interconnection to existing infrastructure wherever feasible. No major upgrades to transmission or substations are planned.

Access roads for new tower sites will be installed where necessary, connecting existing road networks to the proposed tower locations. These access roads will primarily consist of gravel or crushed stone surfaces, designed to minimize erosion and maintain accessibility throughout the year. To mitigate environmental impacts, access roads will be sited to avoid sensitive habitats, cultural resources, and significant water bodies.

All components are located on tribally owned lands and sited to avoid conflicts with utilities, sensitive land uses, and culturally significant sites. Activities are anticipated to have minimal long-term impacts on existing utility and transportation infrastructure. Fiber deployment within previously disturbed corridors reduces the risk of damage to other utilities and limits new ground disturbance. Temporary construction-related impacts may include limited access restrictions, minor traffic delays on roads adjacent to construction sites, and short-term noise from equipment and vehicles.

Under the No Action Alternative, no installation or upgrades to broadband would occur in on the Pine Ridge Reservation. Although the existing communities could continue as is and the no action alternative does not preclude the potential for future upgrades/installations to occur, installation or upgrades to broadband would be a beneficial impact; therefore, less than significant impacts would occur to infrastructure.

4.10 Human Health and Safety

The proposed project is expected to positively impact human health and safety by expanding access to reliable, high-speed broadband services across the Reservation. This hybrid fiber-wireless system is designed to provide the bandwidth and reliability necessary to support telemedicine, remote mental health care, online public health programs, and emergency communication networks. The project will also

enable better coordination among Tribal emergency responders, healthcare providers, law enforcement, and public service agencies.

All construction activities will follow applicable federal, Tribal, and Occupational Safety and Health Administration (OSHA) safety standards to protect worker and public health. Contractors will implement site-specific health and safety plans, and appropriate signage and protective measures will be used around construction areas to minimize risks to nearby residents and travelers.

Electromagnetic Frequency (EMF) emissions from wireless towers will remain well within limits established by the FCC and are not expected to pose any health risks to the public. Fiber optic cables do not emit EMF and are widely recognized as safe for both workers and the public.

The project is expected to have no adverse impacts on human health and safety. In fact, the deployment of improved broadband infrastructure will generate substantial long-term public health and safety benefits, including:

- Enhanced access to emergency services and health care via telecommunication;
- Improved disaster preparedness and communication during weather events or other emergencies;
- Expanded access to mental health services, health education, and social support through virtual platforms;
- Safer working conditions due to adherence to construction and safety regulations.

Temporary health and safety risks during construction (e.g., equipment operation, traffic hazards, dust) will be mitigated through standard safety practices and environmental controls. These short-term impacts will be managed to minimize disruption to local residents and Tribal communities. No hazardous materials will be used or stored onsite beyond routine construction fuels and supplies.

Under the No Action Alternative, no impacts would occur to human health and safety.

4.11 Reasonably Foreseeable Environmental Impacts

Reasonably foreseeable environmental impacts are future actions that will occur in the project region as well as reasonably close causal relationships to the proposed action. The proposed broadband deployment, when considered alongside past, present, and reasonably foreseeable future projects within the Pine Ridge Reservation and surrounding areas, is not expected to result in significant adverse impacts. This is due to careful siting within previously disturbed ROWs, adherence to best management practices, and ongoing coordination with Tribal agencies and stakeholders to minimize effects on land use, environmental resources, infrastructure, and human health and safety.

In addition to the local planning and development guidelines, the proposed action (the construction of 11 towers, the construction of one composite pole, and the collocation of equipment on six other existing towers) is part of the development of multiple other towers and additional collocations within the region. The overall project will provide further expansion and eliminate gaps in rural internet coverage. The overall project was created in accordance with the proposed buildout requirements of the grant. This project will be considered within its own EA as will other future proposed projects that will be subject to their own environmental reviews. The collective expansion of broadband and telecommunications projects throughout the region are not anticipated to result in significant adverse environmental impacts.

5.0 Relevant Laws, Regulations, and Permits

Table 5: Potential Applicable Statutory, Regulatory, and Other Requirements

Regulation	Project Information / Applicability
All Resources	
National Environmental Policy Act of 1969 42 U.S.C. § 4321 et seq.	NEPA EA and associated public involvement procedures are underway.
Federal Communications Commission 47 CFR §1.1301-1 .1320	Sections 1.1301-1.1320 incorporate the existing provisions of the ACHP regulations, which establish the framework for reviewing federal agency actions that may affect historic properties under Section 106 of the NHPA.
Vegetation, Wildlife, and Fish	
Endangered Species Act of 1973 16 U.S.C. § 1531 et seq.	Review of the tower locations and the fiber route indicated no environmental concerns with any agencies and no further ESA consultation was required for the proposed areas.
Magnuson-Stevens Fishery Conservation and Management Act of 1976 16 U.S.C. 1801 et seq.	The project as currently proposed will have no effect on fisheries.
Bald Eagle and Golden Eagle Protection Act of 1940 16 U.S.C. § 668-668d	The project as currently proposed will have minimal to no effects on Bald or Golden Eagles.
Migratory Bird Treaty Act of 1918 16 U.S.C. § 703-712	The project as currently proposed will have minimal to no effect on migratory birds.
Responsibilities to Federal Agencies to Protect Migratory Birds Executive Order 13186	
Waters, Wetlands, and Floodplain Protection	
Clean Water Act 33 U.S.C. § 1251 et seq.	
Floodplain/Wetlands Environmental Review Requirements 10 CFR 1022.12	No wetlands, floodplains, surface waters, or WOTUS have been identified on or near either site. The project will not impact these features.
Floodplain Management Executive Order 11988	
Protection of Wetlands Executive Order 11990	
Coastal Zone Management Act 16 U.S.C. § 1451 et seq.	The project is not located in a coastal zone requiring coordination under the CZMA.
Air Quality and Greenhouse Gases	
The Clean Air Act, 42 U.S.C. 7401	The project is not anticipated to require any air permits. To minimize the effects of fugitive dust during construction, dust suppression techniques via water trucks or other methods would be implemented.
Cultural and Historic Resources	
Antiquities Act of 1906 16 U.S.C. § 431-433	
Historic Sites Act of 1935 16 U.S.C. § 461-467	
National Historic Preservation Act as amended, inclusive of Section 106 54 U.S.C. § 306108 et seq.	Impacts to cultural resources are not anticipated. In the unlikely event that unanticipated historic properties, cultural artifacts, archeological deposits, or human remains are inadvertently encountered during the bore program excavation activities, all ground disturbing activities must halt immediately, and NTIA along with the appropriate state and/or tribal agencies must be contacted, in accordance with applicable state law and federal regulation (36 C.F.R. § 800.13(b)).
Archaeological Resources Protection Act of 1979, as amended 16 U.S.C. § 469 a-c	
Native American Graves Protection and	

<p>Repatriation Act 25 U.S.C. § 3001 et seq.</p> <p>Indian Sacred Sites Executive Order 13007</p>	
<p>American Indian Religious Freedom Act of 1978 (42 U.S.C. § 1996)</p>	<p>Impacts to cultural resources are not anticipated. In the unlikely event that unanticipated historic properties, cultural artifacts, archeological deposits, or human remains are inadvertently encountered during the bore program excavation activities, all ground disturbing activities must halt immediately, and NTIA along with the appropriate state and/or tribal agencies must be contacted, in accordance with applicable state law and federal regulation (36 C.F.R. § 800.13(b)).</p>
Noise, Public Health, and Safety	
<p>Noise Control Act of 1972 42 U.S.C. § 4901 et seq.</p>	<p>Construction work will be performed during construction hours of 6am to 9pm to reduce construction noise to off-site sensitive receptors.</p>
<p>Spill Prevention Control and Countermeasures Rule 40 CFR 112</p> <p>Comprehensive Environmental Response, Compensation, and Liability Act 42 U.S.C. § 9601 et seq.</p> <p>Resource Conservation and Recovery Act 42 U.S.C. § 6901 et seq.</p> <p>The Toxic Substances Control Act 15 U.S.C. 2601 et seq.</p>	<p>Construction work will be performed during construction hours of 6am to 9pm to reduce construction noise to off-site sensitive receptors. Workers should follow OSHA requirements for worker protection (i.e. wearing hearing protection, etc.). The Grantee will identify buried utilities prior to subsurface construction methods using 811 (Call Before You Dig) and permit only workers qualified by training or experience to operate heavy machinery and equipment. Coordination with the FAA will be completed to ensure the proposed tower will pose no hazards to air navigation.</p>

6.0 Consultations

Table 6: Agency Consultations

Agency and Name	Consultation	Status
U.S. Fish and Wildlife Service	Environmental Review	No further review required, no known impact
OST THPO	Section 106 of the NHPA	No further review required, no known impact

Appendices

Appendix A: Preparers

Preparers

This Environmental Assessment was prepared by the following individuals at Palmetto Engineering and Consulting (PEC) on behalf of the Oglala Sioux Tribe for the National Telecommunications and Information Administration (NTIA) Tribal Broadband Connectivity Program (TBCP):

Palmetto Engineering and Consulting
www.palmettoeng.com

David Moore
Director of Texas Operations
Document Review

John Moody
Fixed Wireless Engineer
Document Review

Stephen Jansen
OSP I – Project Manager
Researcher & Author

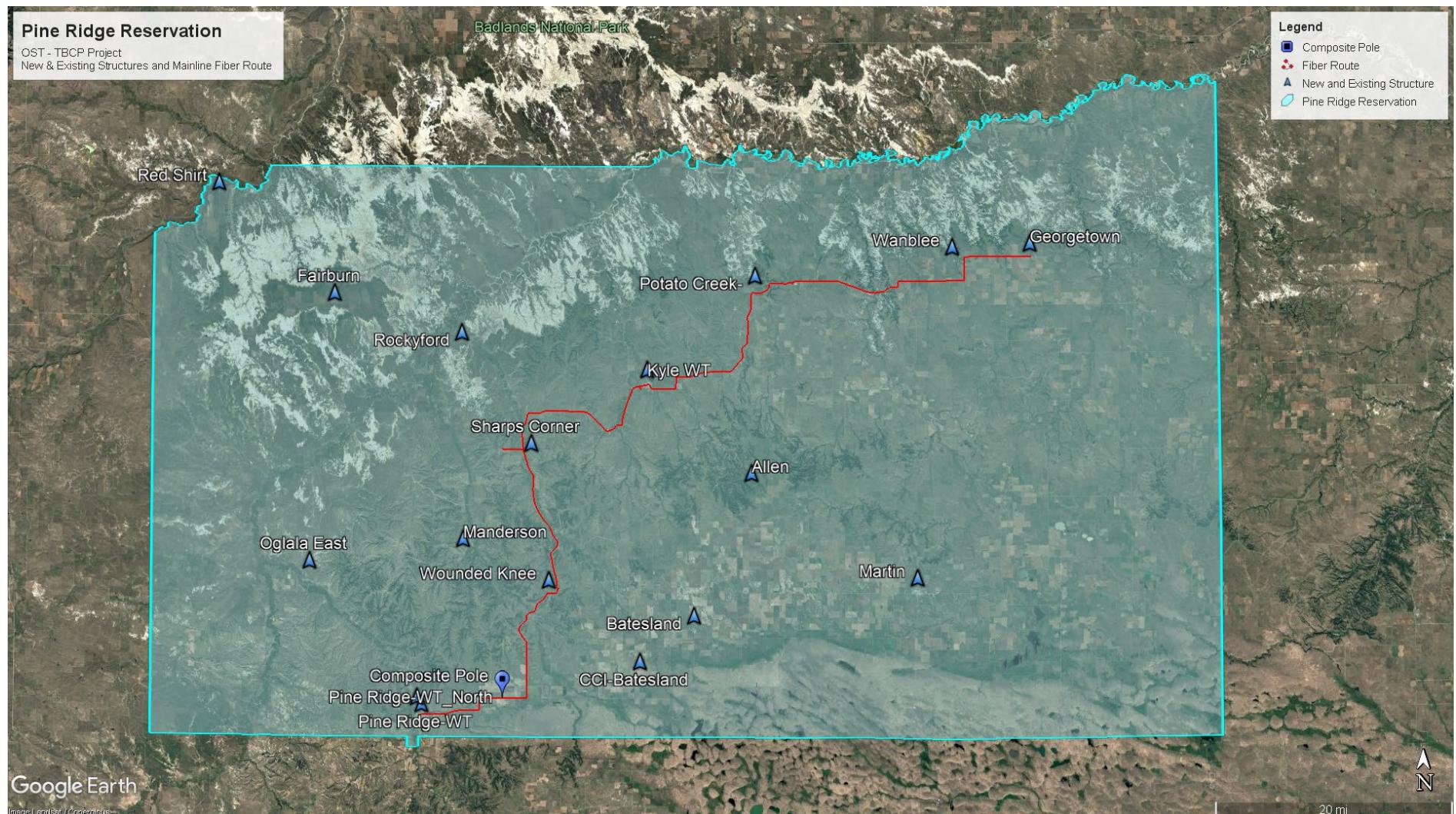
Christian Kaster
Engineering Specialist
Researcher & Author

Miranda Rudd
Engineering Assistant
Researcher & Author

This document was prepared in close coordination with representatives of the Oglala Sioux Tribe. The findings reflect the best available data and professional judgment at the time of assessment.

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Google Earth

Image Landed / Copernicus

Figure 1: New and Existing Structure Sites & Fiber Route

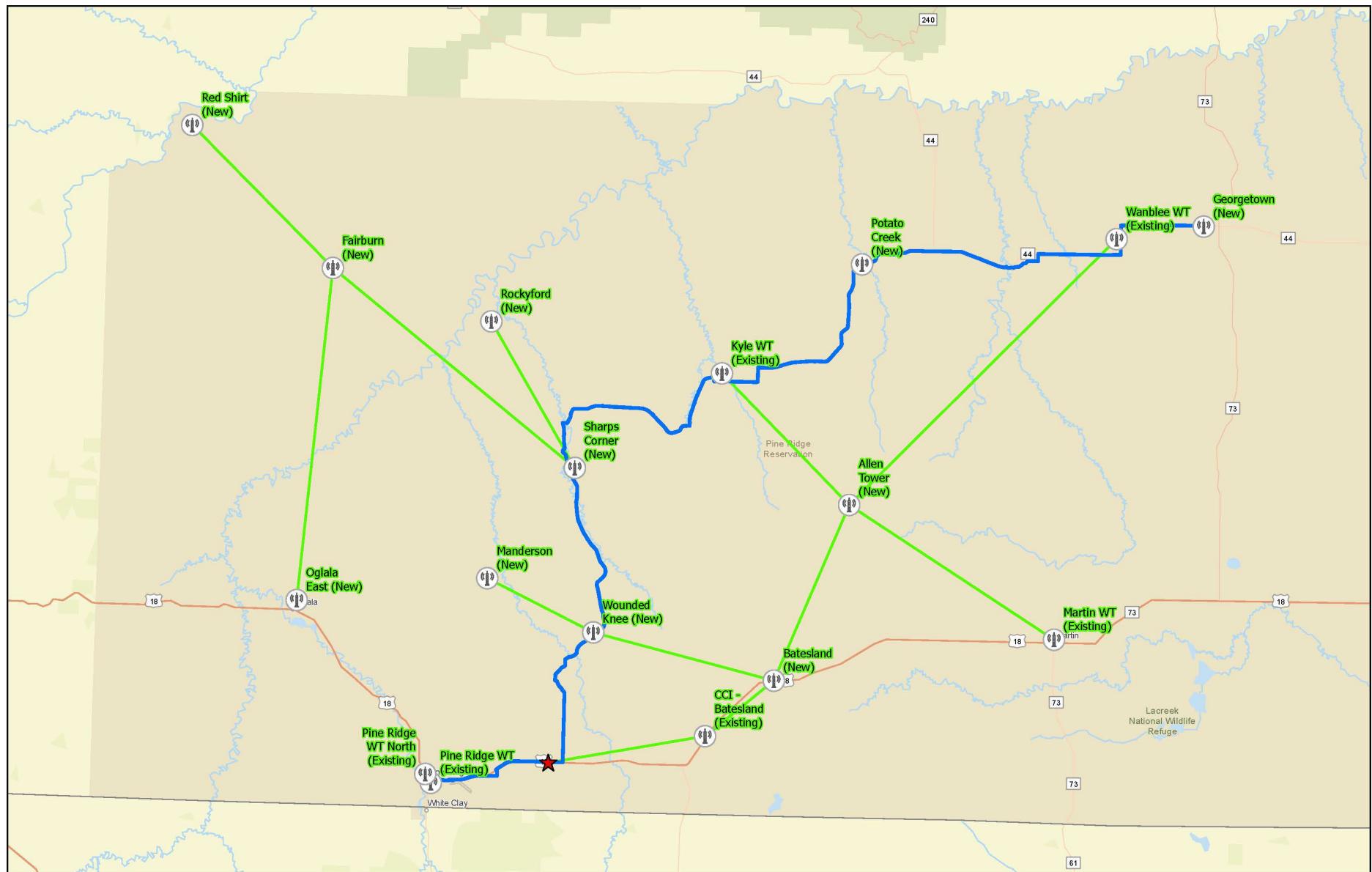


Figure 2: Structure Sites and Fiber Route with Microwave Backhaul Links

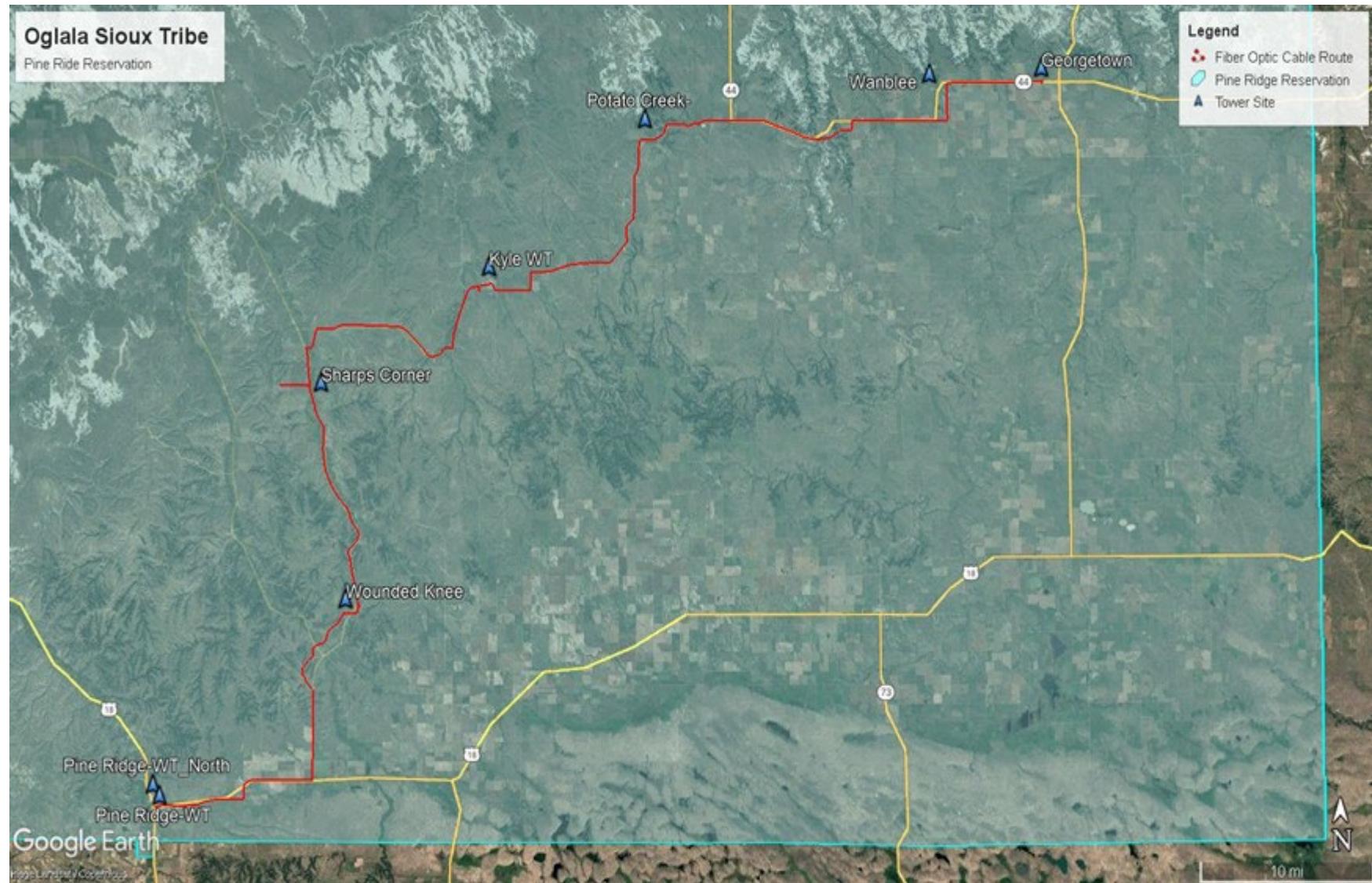


Figure 3: Mainline Fiber Backhaul on Existing ROW Connecting 8 RAN Sites

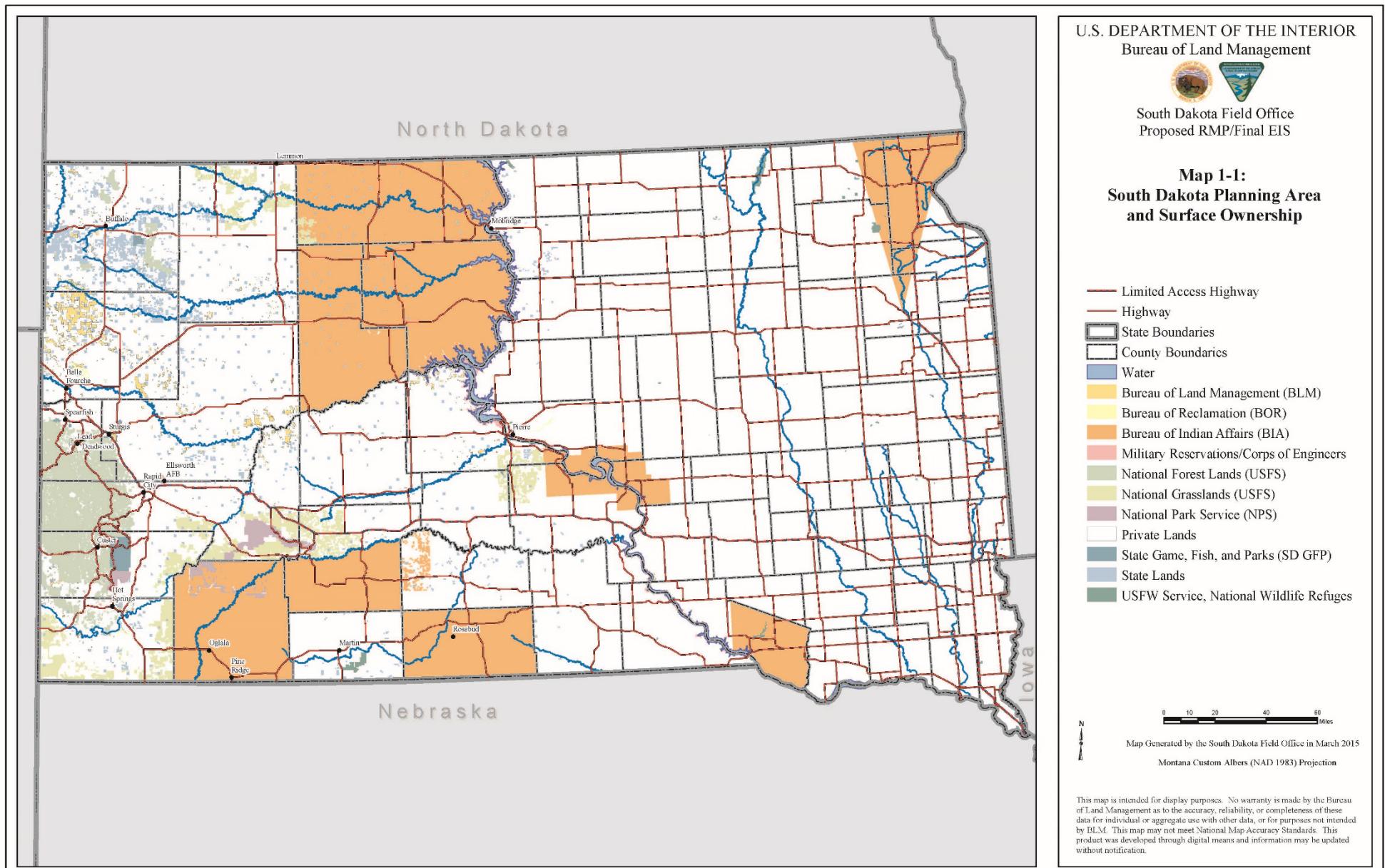
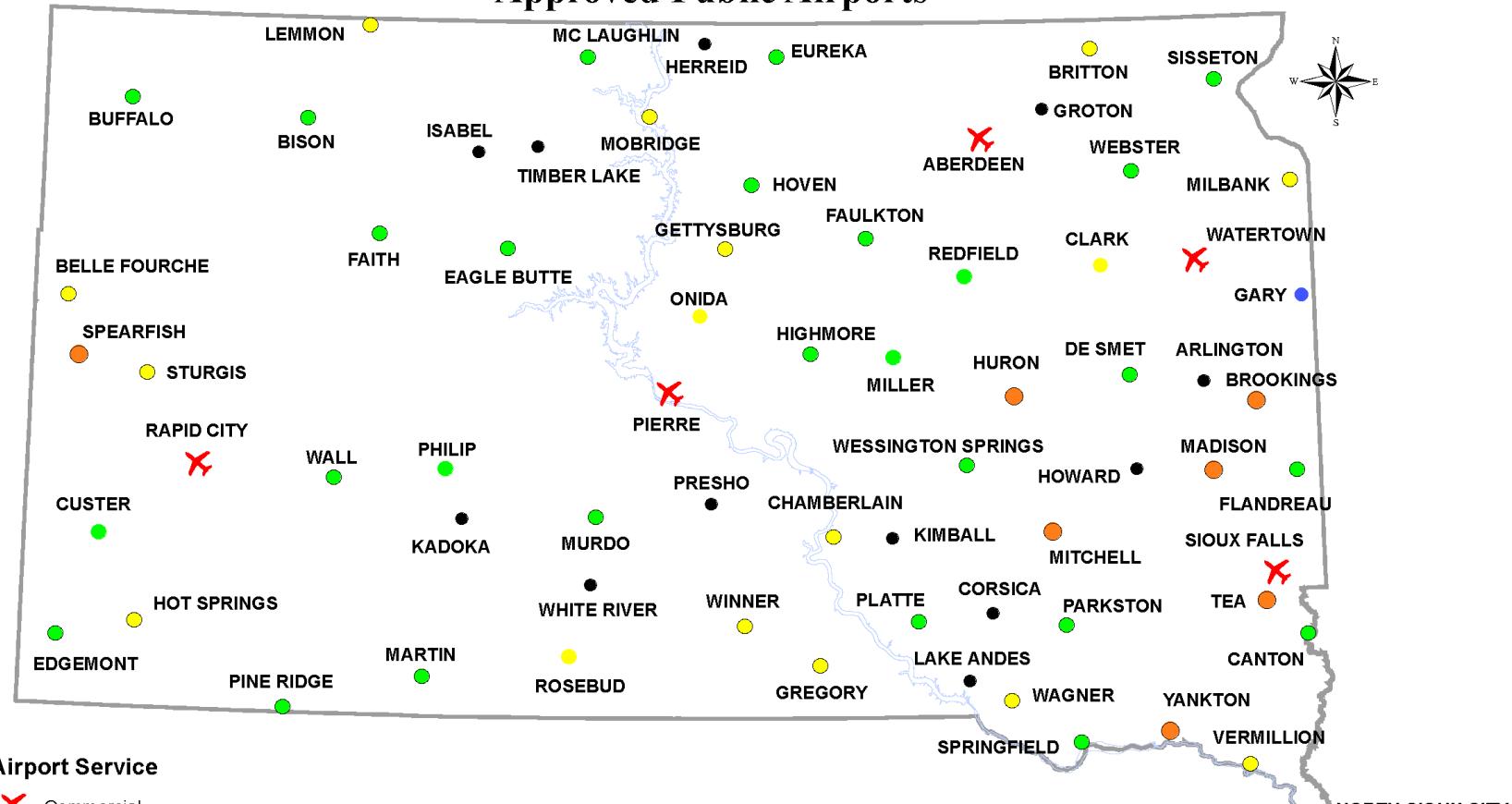


Figure 4: BLM South Dakota Planning Area and Surface Ownership

South Dakota Approved Public Airports



Airport Service

- Commercial (Red X)
- Large general aviation (Orange circle)
- Medium general aviation (Yellow circle)
- Small general aviation (Green circle)
- Basic/turf (Black dot)
- Seaport (Blue dot)

South Dakota Department of Transportation
Office of Air, Rail and Transit
January 1, 2024

Figure 5: SDOT Airport Information Map

Appendix C: Section 7 ESA Consultation



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services

South Dakota Field Office

420 South Garfield Avenue, Suite 400

Pierre, South Dakota 57501-5408

May 8, 2025

In Reply Refer to:
Oglala Sioux Tribe Broadband
Infrastructure Project

Andrew Bielakowski
Environmental Program Officer
Office of Internet Connectivity and Growth (OICG)
National Telecommunications & Information Administration (NTIA)
Washington, D.C. 20230

Dear Mr. Bielakowski:

Thank you for your letter dated May 6, 2025 concerning a consultation for the installation of approximately 100 miles of Fiber Optic Cable and 10 communication towers on the Oglala Sioux Tribal lands in Bennett, Jackson, Oglala Sioux Counties, SD. Fiber optic cable installation will be by static plow and directional boring. Static plow is an industry-standard process by which a path of approximately three inches wide, thirty-six inches deep is created, fiber cable installed into the ground, and then soil is packed back down to mitigate loose sediments. Directional boring is an industry-standard process by which soil disturbance will be a total area of approximately sixty square feet at entry and exit holes when boring in the conduit for the fiber optic cable. Existing vegetation in the area will function as the sediment control and the area will be backfilled, packed, and seeded as required by governing agencies. All fiber will be installed within previously disturbed, existing ROWs.

Each of the ten new tower sites will require an access road to the new tower site location as well as a tower foundation, equipment cabinet, shelter, fence with a gate, and electrical utility. All new tower sites will be guyed towers with various site dimensions depending on height, which is either 180 feet (5 towers) or 295 feet (5 towers). The foundation for the towers will consist of a central pedestal varying in lengths and dug to various depths relative to height to support the weight of the tower. The foundation for the shelter will be 8'x10' with a minimum of 6" deep for the prefabricated shelter. A chain link fence will be placed around the shelter and tower to secure the property. Tribal utility will build aerial electric lines up to the new tower sites by placing new poles. The total area of ground disturbance for each tower site will be either approximately 0.96 or 2.56 acres, depending on tower height (180 v. 295 feet).

In accordance with section 7(c) of the Endangered Species Act (ESA) as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed, candidate, and/or proposed species may occur in the project area (this list is considered valid for 90 days):

<u>Species</u>	<u>Status</u>	<u>Expected Occurrence</u>
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Endangered	Summer resident, seasonal migrant, known winter resident in Black Hills
Rufa red knot (<i>Calidris canutus rufa</i>)	Threatened	Rare seasonal migrant
Whooping Crane (<i>Grus americanus</i>)	Endangered	Dense emergent vegetation in shallow ponds, Freshwater marshes, wet prairies, or along lake margins
American burying beetle (<i>Nicrophorus americanus</i>)	Threatened	Resident or possible
Suckley's Cuckoo Bumble Bee (<i>Bombus suckleyi</i>)	Proposed Endangered	Very rare potential resident no recent reported occurrences
Monarch butterfly (<i>Danaus plexippus</i>)	Proposed Threatened	Spring-Fall, breeding in and migration
Western Regal Fritillary (<i>Argynnis idalia occidentalis</i>)	Proposed Threatened	Year round resident in native grasslands with violet species
Western prairie fringed orchid (<i>Platanthera praecox</i>)	Threatened	Possible habitat, no recent specimens

Northern Long-eared Bat. The northern long-eared bat is a medium-sized brown bat listed as Endangered under the Endangered Species Act. Northern long-eared bats are known to be present in South Dakota year-round, primarily roosting singly or in colonies underneath bark, in cavities or in crevices of both live and dead trees in the summer. Some hibernacula have been documented in caves/mines in the Black Hills. The species has been documented in other forested areas in the state during the summer months and along the Missouri River during migration. Summer survey guidelines for this species have been developed (available online at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>). White nose syndrome - a fungus affecting hibernating bats - is considered a significant threat to this species, but individuals may be harmed by other activities such as modifications to hibernacula, timber harvest, human disturbance, and collisions with wind turbines. A 4(d) rule has been published that exempts take of Northern long-eared bats in certain circumstances.

Rufa red knot. The rufa red knot is a robin-sized shorebird listed as threatened under the Endangered Species Act (see: <<http://www.gpo.gov/fdsys/pkg/FR-2014-12-11/pdf/2014-28338.pdf>> for more information). The red knot migrates annually between its breeding grounds in the Canadian Arctic and several wintering regions, including the Southeast United States, the Northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. Although it is primarily a coastal species, small numbers of rufa red knots are reported annually across the interior United States (i.e., greater than 25 miles from the Gulf or Atlantic Coasts) during spring and fall migration. These reported sightings are concentrated along the Great

Lakes, but multiple reports have been made from nearly every interior State, including South Dakota. The red knot likely uses South Dakota habitats similar to those of the least tern and piping plover. The species does not breed in this state.

Whooping Crane. Whooping cranes migrate through South Dakota on their way to northern breeding grounds and southern wintering areas. They occupy numerous habitats such as cropland and pastures; wet meadows; shallow marshes; shallow portions of rivers, lakes, reservoirs, and stock ponds; and both freshwater and alkaline basins for feeding and loafing. Overnight roosting sites frequently require shallow water in which to stand and rest. Should construction occur during spring or fall migration, the potential for disturbances to whooping cranes exists; particularly because your project involves construction in counties close to the Missouri River migration corridor and adjacent to major river systems. Disturbance (flushing the birds) stresses them at critical times of the year. We recommend remaining vigilant for these birds. There is little that can be done to reduce disturbance besides ceasing construction at sites where the birds have been observed. The birds normally do not stay in any one area for long during migration. Any whooping crane sightings should be reported to this office.

American burying beetle. American burying beetles are known residents of southern Tripp County and have been documented along the southern edge of Bennett County, the eastern edge of Todd county and the western edge of Gregory County. Recent studies have shown some preference by this species for sandy or sandy-loam grasslands with interspersed stands of low-meadow cottonwoods. However, they will use various types of soil and habitat if the right type of food is available. American burying beetles spend the majority of their life underground. In South Dakota, they are active mid-May to end of June during breeding and then again in August, when young emerge as adults. Adults are still present underground during winter, so any ground disturbing activities during any part of the year should avoid, minimize or mitigate for this species. The life cycle of the beetle includes approximately 2 to 2 ½ months spent underground as larvae and pupae, and then overwintering as adults underground near at soil depths near the frost line. After they locate a suitable carcass, breeding adults bury it, lay eggs adjacent to it and care for the hatched larvae underground until the larvae pupate, approximately 2 weeks later. The parents then leave the pupae to develop within the soil until they emerge as adults 48 to 65 days later, mid to late summer. Using the most current, best available science, including data from surveys in Bennett and Oglala Sioux Counties in 2020 - 2021, American Burying Beetles are unlikely to be in the project area due to soils, management, and routine maintenance of water ROWs.

Monarch butterfly. In December 2020, the Service determined that the monarch is warranted for listing under the ESA but is precluded at this time by higher priority listing actions. The monarch is a large butterfly that lives in a variety of habitats throughout North America and various additional locations across the globe. The monarch needs milkweed (*Asclepias* spp.) for breeding. Adults use a wide variety of flowering plants throughout migration and breeding. Important nectar sources during the spring migration typically include *Coreopsis* spp., *Viburnum* spp., *Phlox* spp., and early blooming milkweeds. Important nectar sources during fall migration include goldenrods (*Solidago* spp.) asters (*Sympyotrichum* spp. and *Eurybia* spp.), gayfeathers (*Liatris* spp.), and coneflowers (*Helianthus* spp.), thistle (*Cirsium* spp.) and sage (*Salvia* spp.). Lists of preferred nectar plants by region specific to monarchs can be found at <http://www.xerces.org/monarch-nectar-plants/>. Avoiding milkweed patches would protect eggs and larvae. Avoiding nectar sources would conserve food for the adults during reproductive and migration stages.

Western Regal Fritillary: In August 2024, the Service proposed to list the western regal fritillary as threatened under the ESA. The regal fritillary is a large butterfly living in a variety of grassland habitats throughout the Great Plains and Midwest of the United States. Larvae feed exclusively on violet species, while adults feed on nectar from various flowers such as milkweeds (*Asclepias* spp.), native thistles (*Cirsium* spp.), blazing stars (*Liatris* spp.), coneflowers (*Echinacea* spp.), joe-pye weeds (*Eutrochium* spp.), wild bergamot (*Monarda Fistulosa*, and ironweeds (*Vernonia* spp.) (NatureServe 2019). Avoiding nectar sources would conserve food for the prolonged adult diapause and reproductive stages.

Suckley's Cuckoo Bumble Bee: On December 17, 2024, Suckley's cuckoo bumble bee (*Bombus suckleyi*) was proposed for listing as an endangered species (89 FR 102074). Suckley's is an obligate social parasite of social bumble bees in the genus *Bombus*. Suckley's cannot successfully reproduce without the availability of suitable host colonies. It is a semi-specialist parasite and confirmed to usurp nests of Western bumble bee (*Bombus occidentalis*) and Nevada bumble bees (*Bombus nevadensis*).

Based on the best available information, no Suckley's cuckoo bumble bee have been observed in South Dakota since 1969 (Mertens et al 2022) despite recent all taxa bumble bee surveys across the state. Due to this information, we now consider Suckley's cuckoo bumble bee to be extirpated from South Dakota. Because the species is not currently known to occur in South Dakota, projects will have "no effect" on the species, and we recommend Federal agencies document this determination and rationale in their files for consultation purposes under section 7(a)(2) of the ESA.

While the species is not currently known to occur in South Dakota, we encourage proactive conservation actions to protect and conserve pollinators and pollinator habitat. Examples include retaining suitable foraging (diversity and abundance of native floral resources), nesting (suitable host colony above or below ground), and overwintering habitat (loose substrates such as leaf litter, duff, rotting logs); maintaining habitat for host bumble bees by avoiding impacts to abandoned underground holes (rodent burrows); and revegetation efforts that include native seed mixes to promote an abundance and diversity of native floral resources. Additionally, we recommend supporting and conducting general bumble bee and pollinator surveys.

Determinations: Through phone calls and email exchanges, the South Dakota Field Office provided information on the most current ABB survey results. Due to the absence of occurrence and the soils, management, and routine maintenance of water distribution line ROWs on the project area, the US Fish and Wildlife Service concurs with your "May affect, not likely to adversely affect" determination for American Burying Beetle (ABB) and Western Fringed Prairie Orchid.

There is no need for concurrence for species with a "no effect" determination, for this consultation, Northern Long-eared Bat, Rufa Red Knot, and Whooping Crane, however responsibility for any take to a species with a "no effect" determination resides with the determining agency. For proposed species, in this case Suckley's Cuckoo Bumble Bee, Monarch Butterfly, and Western Regal Fritillary, are not afforded protection under the ESA, however, the U.S. Fish and Wildlife Service encourages their consideration in environmental planning.

This project has potential impacts to migratory birds as well federally listed species. In the case of communication towers the Service has recommended best practices for Communication Tower design, siting, construction, operation, maintenance, and decommissioning (<https://www.fws.gov/sites/default/files/documents/usfws-communication-tower-guidance.pdf>).

Specifically, a preference for shorter towers (under 199 ft) without guy wires co-located on areas with minimal concentrations of breeding, wintering, or migrating birds. In addition, the project does not address the best practices for communication towers and lighting for all towers greater than 199 ft in height, where white OR red FLASHING lights are appropriate if they meet FAA guidelines for intensity and minimum flashes per minute (FAA 2015, 2020). In cases of guyed tower lines, the Service recommends the use of avian diverters to minimize bird strikes on the guy lines. The Service encourage the deployment and maintenance of yellow balls, preferably with a vertical black stripe around the center, as these have been shown to be most effective in preventing line strikes by birds. Balls should be placed at least along the central portion of a span. For spans 50 m or less, place one ball at the center of the span. For more information on bird strikes, please see *Reducing Avian Collisions with Power Lines, the State of the Art in 2012* which may be obtained at: <https://www.aplic.org/documents>.

The Service appreciates the opportunity to provide comments. If you have any questions regarding these comments, please contact Daniel Kim of the South Dakota Field office at daniel_kim@fws.gov or (605) 280-6090.

Sincerely,

LUKE TOSO

Digitally signed by LUKE
TOSO
Date: 2025.05.08
12:46:38 -05'00'

Luke Toso
Acting Project Leader
USFWS North and South Dakota Field Offices



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Dakota Ecological Services Field Office
420 South Garfield Avenue, Suite 400
Pierre, SD 57501-5408
Phone: (605) 224-8693 Fax: (605) 224-1416



In Reply Refer To:

04/21/2025 19:35:07 UTC

Project code: 2025-0081392

Project Name: Oglala NTIA Fiber and Tower

Federal Nexus: yes

Federal Action Agency (if applicable): Department of Commerce

Subject: Record of project representative's no effect determination for 'Oglala NTIA Fiber and Tower'

Dear Douglas Schmidt:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on April 21, 2025, for 'Oglala NTIA Fiber and Tower' (here forward, Project). This project has been assigned Project Code 2025-0081392 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the **Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey)**, invalidates this letter. *Answers to certain questions in the Dkey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.*

Determination for the Northern Long-Eared Bat and/or Tricolored Bat

Based upon your IPaC submission and a standing analysis, your project has reached the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	No effect

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- American Burying Beetle *Nicrophorus americanus* Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Rufa Red Knot *Calidris canutus rufa* Threatened
- Suckley's Cuckoo Bumble Bee *Bombus suckleyi* Proposed Endangered
- Western Prairie Fringed Orchid *Platanthera praecox* Threatened
- Western Regal Fritillary *Argynnis idalia occidentalis* Proposed Threatened
- Whooping Crane *Grus americana* Endangered

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the species covered by this key. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the South Dakota Ecological Services Field Office and reference Project Code 2025-0081392 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Oglala NTIA Fiber and Tower

2. Description

The following description was provided for the project 'Oglala NTIA Fiber and Tower':

Oglala NTIA Fiber and Tower

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.6535791,-102.89256615,14z>



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the species covered by this determination key. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

No

12. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

No

13. Will the action cause effects to a bridge?

Note: Covered bridges should be considered as bridges in this question.

No

14. Will the action result in effects to a culvert or tunnel at any time of year?

No

15. Are trees present within 1000 feet of the action area?

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

16. Does the action include the intentional exclusion of bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

17. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

No

18. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

21. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

22. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

23. Will the action include drilling or blasting?

No

24. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

No

25. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

26. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

27. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

No

28. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

No

29. Will the proposed action result in the use of prescribed fire?

Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

No

30. Does the action area intersect the northern long-eared bat species list area?

Automatically answered

Yes

31. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

Automatically answered

No

32. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

33. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?

If unsure, answer "Yes."

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

34. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

No

35. Do you have any documents that you want to include with this submission?

No

IPAC USER CONTACT INFORMATION

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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Commerce

Appendix D: THPO Consultation

I, Trina Lone-Hill, acting as the representative for the Oglala Sioux Tribe's Tribal Historic Preservation Officer (THPO), have reviewed the Environmental Assessment (EA) document prepared by Palmetto Engineering and Consulting for the Oglala Sioux TBCP Broadband Project. I concur with the recommendation that the project be determined to have "**No Adverse Effect**" pursuant to 36 CFR § 800.5, with special care given to the following items:

- Fiber Route and Site Clearance:
 - The project's fiber route is to be installed primarily within previously disturbed rights-of-way.
 - Existing structure sites require minimal clearing.
 - New structure sites will require some clearing for pads and access roads, with best practices maintained to minimize potential impact.
- Should any cultural resources be discovered during construction:
 - All activities must cease within 50 feet of the direct vicinity of said resource.
 - The THPO must be promptly notified to assess the site and advise on next steps.
- The Oglala Sioux Tribe and their contractors follow industry standard best practices and adhere to the mitigation measures outlined within the EA to minimize the impact of the project.

These factors, along with the comprehensive mitigation measures outlined in the EA, demonstrate a strong commitment to minimizing adverse effects on historic properties and important tribal resources. The project's careful planning and consideration of potential impacts, as outlined above, help mitigate the potential for adverse effects on previously undocumented resources.

Thank you,

[Signature]

[Name]

Acting Tribal Historic Preservation Officer Representative
Oglala Sioux Tribe