

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Dakota Carrier Network  
Comprehensive Community Infrastructure Broadband Project**

**Summary**

Dakota Carrier Network (DCN) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install 204 miles of buried fiber optic cable in North Dakota. Approximately 173 miles of new fiber will be placed within existing road rights-of-way (ROWs), utility corridors, or attached to existing bridges. The remaining 31 miles will be buried in previously undisturbed, private ROWs. As part of this Project, DCN will install buried fiber laterals to connect 177 currently unserved or underserved community anchor institutions (CAIs) to the network. This effort is referred to as the DCN Comprehensive Community Infrastructure Broadband Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to DCN through BTOP, as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the Project completed within three years. This timeline will comply with the laws and regulations governing the use of this ARRA grant funding.

BTOP supports the deployment of broadband infrastructure in unserved and underserved areas of the United States and its Territories. As a condition of receiving BTOP grant funding, recipients must comply with all relevant Federal legislation, including the National Environmental Policy Act of 1969 (NEPA). Specifically, NEPA limits the types of actions that the grantee can initiate prior to completing required environmental reviews. Some actions may be categorically excluded from further NEPA analyses based on the specific types and scope of work to be conducted. For projects that are not categorically excluded from further environmental review, the grant recipient must prepare an Environmental Assessment (EA) that meets the requirements of NEPA. After a sufficiency review, NTIA may adopt the EA, use it as the basis for finding that the project will not have a significant impact on the environment, and issue a finding of no significant impact (FONSI). Following such a finding, the BTOP grant recipient may then begin construction or other activities identified in the EA as the preferred alternative, in accordance with any special protocols or identified environmental protection measures.

DCN completed an EA for this Project in May 2011. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

The Project includes:

- Installing 173 miles of new underground fiber in existing road ROWs, utility corridors, or on existing bridges; and
- Installing 31 miles of new underground fiber in previously undisturbed, private ROWs, including fiber laterals to connect 177 CAIs to the network.

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June 2011

**Dakota Carrier Network  
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- Installing 31 miles of new underground fiber in previously undisturbed, private ROWs, including fiber laterals to connect 177 CAIs to the network.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative, and incorporating best management practices (BMPs) and protective measures identified in the EA, will not result in any significant environmental impacts. Therefore, the preparation of an EIS is not required. The basis for this determination is described in this FONSI.

Additional information and copies of the Executive Summary of the EA and FONSI are available to all interested persons and the public through the BTOP website ([www2.ntia.doc.gov/](http://www2.ntia.doc.gov/)) and the following contact:

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**Purpose and Need**

The purpose of this Project is to provide interconnectivity between critical community infrastructure and existing fiber optic facilities adjacent to the planned Project segments. As a primarily rural State, North Dakota faces challenges in providing reliable and timely emergency medical and public safety services. Much of this service across the State is currently provided by copper wiring, which has limited data transmission speeds as compared to fiber cable. Accordingly, DCN and its partners have set a goal to upgrade current copper facilities to fiber-based infrastructure. This goal has been achieved in many communities throughout North Dakota, but 177 CAIs remain unserved or underserved. This Project will address this deficiency by installing new fiber-based infrastructure. Additionally, the North Dakota Health Information Technology Advisory Committee is working to expand telemedicine systems and electronic health records management, and North Dakota schools and community colleges are increasingly relying on distance learning applications. These applications require ready access to broadband services. By providing broadband service to rural portions of North Dakota, this Project will spur economic development, create jobs and educational opportunities, improve healthcare, and enhance quality of life in the region.

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**Project Description**

This Project includes installation of 173 miles of buried fiber within existing road ROWs, utility corridors, or on existing bridges. Another 31 miles will be installed in previously undisturbed areas, bringing the total length of new fiber to be installed to 204 miles. The Project will provide healthcare and public safety entities, schools, and government agencies throughout North Dakota with enhanced broadband opportunities. The new network will serve 48 communities, 5 unincorporated areas, and 27 rural locations. DCN has formed 13 partnerships to accomplish the Project and provide broadband service to 582 sites. Of these 582 sites, 177 critical CAIs will be directly connected to the new network through installation of buried fiber lateral runs.

All fiber will be installed underground using a combination of plowing and horizontal directional drilling (HDD) methods. Installation of cable will not require substantial ground disturbance. A typical plowing blade up to three inches wide will be used to create a slot into which new cable will be laid. The cable will be placed approximately 36 inches below the ground surface. HDD will be used to install route segments that cross wetlands and waterways, segments in more urbanized areas on the planned Project route, and where necessary to avoid trees and other environmentally sensitive resources. Bore entry and exit pits will be excavated at least 30 feet from the target feature being avoided. At water body crossings, the cable will be placed on existing bridges over the span, or will be installed underground by boring beneath the water body. Wetlands and waterways will be bored at depths sufficient to protect the hydrologic properties of these features. The number of miles to be installed by each method will be determined on a segment-by-segment basis during Project design. Construction activities will occur primarily in ditch bottoms (for plow installation) or in existing utility easements (for bore installation). All disturbed areas, including boring entry and exit pits, will be immediately back-filled, compacted, and re-seeded upon completion of fiber installation activities.

**Alternatives**

The EA includes an analysis of the alternatives for implementing the Project to meet the purpose and need. NTIA also requires that an EA include a discussion of the no action alternative. The following summarizes the alternatives analyzed in the EA.

*Alternative 1 – Underground Fiber Installation (Preferred Alternative).* As described above, this alternative will involve installation of 204 miles of buried fiber optic cable using a combination of plowing and directional boring techniques. In addition, buried fiber lateral extensions will be extended to 177 critical CAIs in the region.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in the Project area. Under the no action alternative, the 582 sites that would benefit from construction of the planned network would continue to operate without needed broadband service or receive only sub-standard service. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

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*Alternatives Considered But Not Carried Forward.* Two additional options were considered for the Project: aerial construction and wireless technology. Aerial construction would not be a feasible alternative because overhead fiber optic cable is susceptible to severe weather. With North Dakota's harsh winter, it is highly likely that overhead lines would be broken by wind or ice accumulation, compromising reliability of the network. In addition, aerial construction would increase the potential for avian and bat mortality due to strikes. Wireless service is not capable of supporting the network and bandwidth required by the 582 identified CAIs and other community service providers associated with this Project. For these reasons, aerial and wireless options alternative were eliminated from further consideration.

### **Findings and Conclusions**

The EA analyzed existing conditions and environmental consequences of the preferred alternative and the no action alternative in 11 major resource areas, including Noise, Air Quality, Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use and Recreation, Infrastructure, Socioeconomic Resources, and Human Health and Safety. Cumulative impacts were also evaluated.

#### ***Noise***

The Project will result in minor, temporary increases in ambient noise levels during the construction phase. Noise will be generated by heavy equipment while transporting materials and installing the fiber optic cable. Machinery will be equipped with suitable mufflers to help control and minimize construction noise. Operation of the fiber optic network for data transmission will not result in long-term increases in noise along the Project route. Therefore, no permanent increases in noise levels are anticipated. Based on these assessments, no significant noise impacts are expected to occur as a result of this Project.

#### ***Air Quality***

Installation of the planned fiber infrastructure will temporarily impact air quality in the Project area. Use of heavy equipment during fiber installation will generate dust and exhaust emissions. However, given the limited nature of construction activities, these emissions are expected to be minimal, and watering will be used to minimize dust. This Project will include a short-term, minor increase in the use of fossil fuels and associated greenhouse gas (GHG) emissions during the construction phase. All GHG emissions will be related to use of construction equipment, rather than being associated with the buried cable itself. DCN estimates that the Project will result in the release of approximately 770.9 metric tons of carbon dioxide-equivalent emissions. This estimate is well below the Council on Environmental Quality's presumptive effects threshold of 25,000 metric tons of carbon dioxide equivalent emission from an action. Based on these assessments, no significant impacts to air quality are expected to result from this Project.

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***Geology and Soils***

No significant impacts on geology or soils are anticipated to occur as a result of Project implementation. As documented in a letter dated January 31, 2011, the Natural Resources Conservation Service determined that placement of underground telecommunications cable as planned will not remove farmland from permanent production. Upon completion of Project construction, all temporarily disturbed farmland will be restored to its pre-construction condition and available for long-term agricultural use. Placement of buried fiber optic cable will not alter the geologic setting or soil content. Bore entry and exit pits will be re-seeded immediately following installation, and the surface will be mulched to minimize the potential for soil erosion. Silt fences and other controls will be installed near wetlands or water bodies to minimize the potential for soil erosion and sedimentation. Based on these assessments, the Project is not expected to result in significant adverse impacts on this resource area.

***Water Resources***

No significant impacts on surface waters are expected to result from this Project. At waterway crossings, new cable will be placed on existing bridges or bored beneath the water feature. The Project will not alter drainage patterns or result in an increase in pollutant loads. Silt fences and other erosion control BMPs will be implemented where construction activities occur near wetlands or water bodies to minimize the potential for runoff of sediment into surface waters. Wetlands impacts will be minimized by boring beneath these features. If there are locations where boring beneath wetlands is not practical, a U.S. Army Corps of Engineers (USACE) Section 404 permit will be acquired, and plans will be developed to minimize unavoidable impacts to USACE jurisdictional wetlands. In a letter dated January 11, 2011, USACE indicated that the Project is likely covered by Section 404 Nationwide Permit 12 for Utility Line Activities, provided that there will be no changes to pre-construction contours and all other permit requirements are met. A USACE Section 10 permit and a North Dakota Department of Health North Dakota Pollutant Discharge Elimination System (NDPDES) permit may also be required for the Project. In accordance with recommendations from the North Dakota Game and Fish Department (NDGF), dated January 28, 2011, existing drainage patterns will be maintained, and no aboveground structures will be placed in wetland areas.

Aquifers in the area are located hundreds to thousands of feet below the ground surface in the Project area. Because buried fiber will be placed at approximately 36 inches below the surface, the Project is not expected to impact groundwater. There are no coastal zones within the Project area, and the only designated wild and scenic river in North Dakota is located approximately 7.5 miles from the nearest Project segment. Although the Project will include construction within the floodway and/or floodplain of the Green, Heart, Missouri, Red, and Sheyenne Rivers, fill will not be placed into these waterways and base flood elevations will not increase. Non-building floodplain development permits will be acquired from floodplain administrators for all Project segments located within designated floodplains.

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Based on these considerations, and through implementation of appropriate construction methods and BMPs, the Project will have no significant impacts on North Dakota water resources.

***Biological Resources***

DCN identified seven Federally-listed species that occur or potentially occur along the planned Project route: black-footed ferret (*Mustela nigripes*), gray wolf (*Canis lupus*), pallid sturgeon (*Scaphirhynchus albus*), interior least tern (*Sterna antillarum athalassos*), whooping crane (*Grus americana*), piping plover (*Charadrius melodus*), and western prairie fringed orchid (*Platanthera praeclara*). In a letter dated March 4, 2011, the U.S. Fish and Wildlife Service (USFWS) concurred with DCN's determination that the Project "may affect, [but is] not likely to adversely affect" the interior least tern, whooping crane, piping plover, and western prairie fringed orchid. This determination was based on the stipulations that: (1) DCN cease all construction work within one mile of a whooping crane sighting and immediately contact USFWS; (2) DCN avoid all construction within one half mile of piping plover critical habitat between April 1 and August 31; (3) DCN coordinate with the U.S. Forest Service to determine presence of the western prairie fringed orchid along the Project route, including completion of a pre-construction survey in mid-July, when orchids are blooming; and (4) DCN will reroute the installation path, as necessary, to avoid identified orchid populations. In that same letter, the USFWS expressed no objection to DCN's determination that the Project will have no effect on the black-footed ferret, gray wolf, or pallid sturgeon.

Nevertheless, the Project may temporarily affect wildlife, including migratory birds using the Central Flyway of North America. Installation of the new buried fiber will disturb some local vegetation, but reclamation activities (e.g., backfilling and re-seeding) will be implemented immediately after cable is laid. Areas of disturbance will be re-seeded with a mixture of native grass and forb species to match the surrounding landscape. Noxious weed infestations will be treated with herbicide prior to construction to prevent the spread of the infestations. Finally, no significant tree removal is planned. As recommended by USFWS, construction will be completed outside of the migratory bird nesting and breeding season from February 1 to July 15, to the extent feasible. If construction within undisturbed ROWs during this period is unavoidable, a qualified biologist will conduct pre-construction surveys for migratory birds or their nests approximately five days prior to DCN initiating construction activities. Furthermore, to avoid disturbing nesting golden eagles (*Aquila chrysaetos*), fiber installation in Golden Valley County will be avoided between February 1 and August 15. If any active bald eagle (*Haliaeetus leucocephalus*) or golden eagle nest is sighted within 0.5 miles of the Project construction area, DCN will cease construction and notify USFWS.

Based on these assessments, no significant adverse impacts on biological resources are anticipated.

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***Historic and Cultural Resources***

In a letter dated November 18, 2010, NTIA initiated Section 106 consultation with the North Dakota State Historic Preservation Office (SHPO). A Class I Literature Review, including all areas within a one-mile radius of the Project route, was conducted in March 2010. A total of 472 sites were identified within a one-mile radius of Project route, but no historic or cultural resources were found within the Project corridor itself. Of the identified sites, 8 are eligible for listing on the National Register of Historic Places (NRHP), 57 are not eligible for the NRHP, and 371 have unknown eligibility status. According to the Class I Literature Review, the area within a one-mile radius of the Project route includes 10 post-settlement historic sites, 2 combination post-settlement historic and archaeological sites, 2 combination post-settlement historic and architectural sites, 28 pre-settlement archaeological sites, 2 combination pre-settlement archaeological and post-settlement sites, 428 architectural sites, and 2 combination historic and architectural sites. Class II Cultural Resources Inventories were conducted in October 2010, and Class III Cultural Resources Inventories were conducted in November 2010 over a 320-acre Area of Potential Effect that exhibited higher probability for cultural resources findings. No additional historic or cultural resources were discovered during these surveys. After review of the survey reports, the SHPO concurred with DCN's *No Historic Properties Affected* determination. In their letter dated April 25, 2011, the SHPO stipulated that three resources not included in the Class III Cultural Resource Inventory Report (Sites 32SK1017, 32BL29, and 32BL255) be avoided during Project implementation. These sites are not located near the planned Project route and will, therefore, be avoided. Moreover, if previously unknown cultural resources are discovered during Project installation, DCN will immediately stop work, secure the affected site, and notify the SHPO.

On November 26, 2010, NTIA notified 13 Native American tribes of the Project through the Tower Construction Notification System (TCNS). As of May 16, 2011, five responses have been received. In response to this notification, several tribes requested and received additional information, including the Spirit Lake Nation, Lower Brule Sioux Tribe, Three Affiliated Tribes, and the Fort Peck Tribe. Per the request of the Fort Peck Tribe, ethnographic reports have been prepared for the 31 miles of planned routing that will be located in previously undisturbed locations. These reports concluded that construction in these areas would not adversely affect culturally sensitive resources. These reports were submitted to the Fort Peck Tribe on May 5, 2011. In accordance with 36 CFR Section 800.2(2)ii, the tribe was provided the report to ensure their opportunity to identify any concerns about historic properties. No further correspondence has been received from the Spirit Lake Nation or Three Affiliated Tribes. The Lower Brule Sioux Tribe and the Leach Lake Band of Ojibwe indicated no interest in the Project unless there is an inadvertent discovery of archaeological or cultural materials during excavation. Accordingly, if construction-related ground-disturbing activities uncover cultural materials (i.e., structural remains, historic artifacts, or prehistoric artifacts), DCN will immediately cease all work and notify interested Tribes, the SHPO, and NTIA. If ground-disturbing activities uncover human remains, all work will cease immediately, DCN will immediately secure the area around

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the discovery and notify the relevant law enforcement personnel (e.g., local police or county coroner) and NTIA.

The other eight Tribes notified through TCNS have not responded. However, based on completed cultural resources reviews and consultations, the Project is not expected to have significant adverse impacts on historic or cultural resources.

***Aesthetic and Visual Resources***

The Project is expected to have short-term, minor visual and aesthetic impacts during the construction period due to the presence of construction equipment, vehicles, and land disturbance. The presence of buried fiber optic cable will not permanently alter aesthetics or visual resources of the area. However, portions of the Project route are located adjacent to five National Scenic Byways and Backways: Sheyenne River Valley, Turtle Mountain, Killdeer Mountain Four Bears, Des Lacs National Wildlife Refuge, and Old Red/Old Ten. Additionally, short portions of the Project route will be installed in roadway ROWs immediately adjacent to Lake Metigoshe State Park and Turtle River State Park. Construction will not occur on State park property, and neither park will experience permanent impacts on visual or aesthetic resources. Based on these assessments, this Project will not significantly affect aesthetic or visual qualities in the region.

***Land Use***

Approximately 85% of the Project route will be constructed in previously disturbed urban lands or road ROWs. Although this installation will result in temporary ground disturbances, there will be no permanent land use changes. Of the Project segments not located within urban areas or previously disturbed ROWs, approximately 44% are located in grassland and 43% in cultivated land. For these private easement installations, DCN will work to determine ROW ownership prior to construction and obtain appropriate permits for fiber installation in these areas. The Project will not require acquisition of lands owned or managed by the Bureau of Land Management (BLM), USACE, USFWS, the Bureau of Reclamation, North Dakota Parks and Recreation Department (NDPRD), or Grand Forks Air Force Base (AFB). If necessary, a Special Use Permit will be obtained from the appropriate USFWS management district for Project segments located on USFWS easement properties. Disturbed areas will remain available for their pre-construction uses following fiber installation. Based on these considerations, no significant adverse impacts on land use are anticipated.

***Infrastructure***

Installation of the Project as planned will improve broadband infrastructure in unserved and underserved areas of North Dakota. New fiber optic cable will share existing utility corridors with other communications or power infrastructure, and DCN will coordinate installation activities with appropriate utility companies. Additionally, vehicular traffic associated with installation of the Project will temporarily increase traffic on regional roadway networks. However, existing roadways and traffic flow will not be permanently altered. Installation of the

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Project is not anticipated to conflict with existing infrastructure or utility services. Overall, the Project will have a positive impact on infrastructure in North Dakota.

***Socioeconomic Resources***

This Project will provide broadband services and associated opportunities to rural and urban communities in North Dakota. The Project is anticipated to create jobs and have a positive impact on economic development throughout the State. Additional jobs may be created by the local exchange carriers, health industry, public safety entities, and government and academia, as many of these organizations will need to hire technical support staff to handle the enhanced broadband service offerings. The Project will bring telecommunications service and jobs to areas of North Dakota that have low income and/or minority populations, benefitting those communities. No disproportionate adverse impacts to low income or minority populations are anticipated. Overall, the Project is expected to have a positive impact on socioeconomic resources in the region.

***Human Health and Safety***

This Project is not expected to result in substantial health and safety impacts to workers, the traveling public, or CAIs. A formal Health and Safety Plan has not been developed for this Project, as planned construction methodologies do not pose significant safety risks. Moreover, the Project will not require the use of hazardous substances or materials. Based on these considerations, human health and safety are not expected to be significantly affected during construction activities. In the long term, the Project will benefit the medical facilities and public safety agencies in the State by enabling them to provide more responsive, more diverse services to the public.

***Cumulative Impacts***

Project activities are not expected to cause or contribute to significant cumulative impacts to the region. Construction of the planned fiber infrastructure is not anticipated to directly impact other energy, transportation, telecommunications, or municipal projects within the State. Moreover, Project activities will not require acquisition of lands owned or managed by the BLM, USACE, USFWS, Bureau of Reclamation, Arrowwood Wildlife Refuge, Chase Lake Wildlife Refuge, Sully's Hill Game Preserve, waterfowl production areas, NDPRD, or Grand Forks AFB. The Project will contribute cumulatively to the availability of jobs, and upgraded telecommunication systems throughout the State will cumulatively improve public health and safety. No significant adverse cumulative impacts have been identified with regard to this Project.

**Decision**

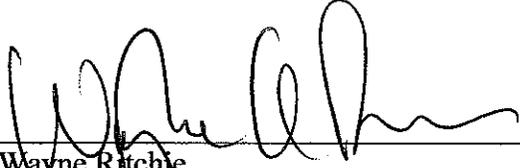
Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, and protective measures, will not require additional mitigation. A separate mitigation plan is not required for the Project. The analyses indicate that the proposed action is not a major Federal action that will significantly affect the

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quality of the human environment. NTIA has determined that preparation of an EIS is not required.

Issued:

  
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Wayne Ritchie  
Chief Administrative Officer  
Office of Telecommunications and Information Applications  
National Telecommunications and Information Administration

06/22/2011  
Date