

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
Page County Broadband Authority
Page County Fiber Network Project**

Summary

The Page County Broadband Authority (PCBA) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to deploy a 39-mile fiber network to serve the four principal towns in Page County, Virginia. The proposed action includes installation of 37 linear miles of backbone and two miles of lateral fiber optic cable to connect 29 community anchor institutions (CAIs) along the network route. The network will be installed aerially, except for a small portion of the network route that will be installed underground in the towns of Luray, Stanley, and Shenandoah. One new wireless communication tower will be constructed in Rileyville, and three existing communication towers within the county will be connected to the fiber network to provide wireless broadband service. This proposed action is referred to as the Page County Fiber Network Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to NGN, 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 is driven by 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.

PCBA completed an EA for this Project in November 2010. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

The Project includes:

- Installing approximately 39 miles of fiber optic cable to create a network running from Rileyville in the north to Shenandoah in the south, with direct connections to 29 CAIs and four telecommunications towers;

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- Installing the majority of the network aerially on existing Shenandoah Valley Electric Cooperative utility poles;
- Installing approximately 1.3 miles of fiber underground using directional boring, missile boring, and plowing techniques;
- Installing hand holes at intervals of approximately 150 feet along underground portions of the network route;
- Constructing one new wireless telecommunications tower, not to exceed 199 feet; foundation slab; access road; and telecommunications equipment cabinet at site in Rileyville;
- Installing collocation cabinets and telecommunications equipment on existing concrete slabs around three existing telecommunications towers in Page County;
- Connecting three existing telecommunications towers to the network by placing cable on existing utility poles or routing it through existing underground conduit; and
- Establishing a Network Operations Center to coordinate network operations and maintenance.

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/) and the following contact:

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Purpose and Need

The purpose of the Project is to extend digital wired, wireless, and cellular services to rural sections of Page County, Virginia. Approximately 75 percent of the county has been designated as unserved or underserved with regard to broadband access opportunities. The Project will provide infrastructure to support high-speed Internet access at 29 CAIs that currently have little or no broadband access. The network will provide direct benefits, such as economic development, enhanced medical services, enhanced first responder and law enforcement services, enhanced education and distance learning opportunities, and improved access to government information and services.

Project Description

The Project includes installation of 37 miles of aerial fiber optic backbone in Page County, running from Rileyville to Shenandoah along US Highway 340 (Business). An additional two miles of fiber laterals will be installed to connect 29 CAIs and four telecommunications towers to the network.

Approximately 97 percent of the network will be installed aerially on existing utility poles within areas of previously disturbed ground. PCBA will hang cable on existing utility poles that are owned by the Shenandoah Valley Electric Cooperative. Poles will be replaced if required to meet the needs of the Project. New poles will be placed adjacent to the location of the removed poles. Aerial cable will be installed using the strand/lash technique. Any required anchors or guys will be installed on the poles before any strand placement begins. The fiber will be pulled from pole to pole and lashed into place. Straps and spacers will then be added to complete the installation process. Aerial cable will be installed using two bucket trucks, a supporting SUV or truck, and a fiber trailer. Although little ground disturbance is expected, construction and maintenance crews will restore any tire ruts that occur while driving from pole to pole.

Approximately 1.3 miles of fiber optic cable will be installed underground in existing ROWs in Luray, Shenandoah, and Stanley. These segments of the network route will cross beneath Court Street adjacent to the County Government Center in Luray, and beneath three railroad crossings in Stanley and Shenandoah. Fiber will transition from aerial to underground at the nearest utility pole and will be installed at a depth of 36 inches below ground. Plowing installation techniques will be used in ROW areas wherever possible. If there are obstacles to plowing, such as sidewalks, driveways, or road crossings, PCBA will use directional boring techniques to install fiber and conduit. Missile boring techniques will be used to avoid existing landscaping and connect CAIs. Hand holes will also be installed at intervals of approximately 150 feet along the entire underground segment of the network. In accordance with Virginia Department of Transportation (VDOT) requirements, the hand holes will also be installed at a depth of 36 inches. Construction equipment, such as directional drilling machines, vibratory plows, drill and boring rigs, vacuum trucks, trailers, and mini-excavators, may be used to complete the

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underground placement of fiber and hand holes. Ground disturbance along the planned underground network route is expected to be no more than three feet wide. All areas of disturbance will be restored via backfilling, regrading (where appropriate), and revegetating with native materials.

This Project also includes construction of one self-supporting tower with a maximum height of 199 feet. The tower will be located on county owned property adjacent to Springfield Elementary School in Rileyville, VA. Site preparation will include construction of a 20 foot gravel access road leading to a 20 foot square concrete reinforced pad on which the tower will be constructed. The outside plant to tower interconnecting fiber will be placed underground either by plow or missile bore construction methods. A small, weather-tight electronics cabinet will be placed on the concrete pad adjacent the tower base to house interconnecting electronics. An area approximately 60 square feet around the new tower and pad will be secured by fencing. The three other telecommunications towers to be connected to the Page County fiber network are currently in place. Fiber optic cable will be installed aerially or through existing underground conduit to connect these towers to the new network. Telecommunications equipment and a pedestal or collocation cabinet will also be installed on the existing concrete slab at the base of the three towers. Heavy equipment to be used for tower construction and site preparation may include concrete trucks, dump trucks, cranes, excavators, utility trucks, and fiber trailers.

Connection points will be built into the network every 1,000 feet in order to accommodate future growth and expansion. These interconnection points will be located on aerial portions of the network and are not expected to require any ground disturbance. Where the network enters buildings, fiber will be connected to existing telecommunications boxes for each building. If necessary, the fiber will penetrate the building through a single, sealed bore hole in the wall. No additional external equipment or cabinets are anticipated. Finally, at an existing site, PCBA will establish a front-end Network Operations Center with equipment racks, routers, environment controls, multiple redundant power sources, connection to a main network for bandwidth and backhaul traffic out of the county, and an outside plant fiber distribution transport network.

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 – Aerial and Underground Installation of Fiber Optic Cable (Preferred Alternative). This alternative includes installation of 37 linear miles of backbone infrastructure and two miles of lateral fiber optic cable to connect 29 CAIs and four telecommunications towers (three of which already exist in the Project area). The network will be installed aerially, except for a small portion of the network route that will be installed underground in the cities of Luray, Stanley, and Shenandoah. One new wireless communication tower will be constructed in Rileyville.

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No Action Alternative. No action was also considered. This alternative represents conditions as they currently exist. Under the no action alternative, no new infrastructure would be provided, and 40 percent of the county's residents would remain without broadband service. The 29 CAIs would continue to operate without adequate high-speed broadband access. None of the anticipated benefits related to economic development, eHealth, distance learning, eGovernment, or employment opportunities would be realized. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

Alternatives Considered But Not Carried Forward. Alternative methods of construction were evaluated for implementation of the Page County fiber network. PCBA considered installation of underground cable for the entire network, but this option was eliminated due to substantial increases in capital expenditures to build the network. PCBA also considered aerial installation for the entire network. However, this option was deemed less than optimal because it would not leverage existing underground conduits that could be utilized with minimal disruption and without adding new cabling to existing utility poles. Finally, PCBA considered wireless construction for the entire network, but this option offers substantially less capacity for the cost and would present challenges for connectivity due to the mountainous terrain within the county.

Findings and Conclusions

The EA analyzed existing conditions and environmental consequences of the preferred 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, Infrastructure, Socioeconomic Resources, and Human Health and Safety. Cumulative impacts were also evaluated.

Noise

Aerial and underground fiber installation will result in a temporary and localized increase in ambient noise for approximately three weeks per mile of construction. There will also be approximately 30 days of increased localized, ambient noise during the construction of one tower. Implementation of the Project will not create a new, continuous source of noise. Therefore, this Project will have only negligible short-term impacts on noise and no long-term impacts on noise in the area.

Air Quality

Use of heavy diesel equipment during construction will temporarily increase air pollutant and greenhouse gas emissions. The use of this construction equipment will be short term and the emissions will be similar to those currently generated by vehicles traveling along the Project route. Fugitive dust emissions may be generated during installation along unpaved ROWs and staging areas. No significant air impacts will occur during long-term operation and maintenance of the network. Accordingly, no significant adverse impacts on air quality are expected as a result of this Project.

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Geology and Soils

No ground disturbance is expected in locations where aerial fiber will be replaced on existing poles. However, some ground disturbance will occur during underground conduit and fiber installation, pole replacement, and tower construction. Where ground disturbance is necessary, the area will be restored with native vegetation. All construction activities will occur within previously disturbed soils and in existing ROWs. In addition, the project will monitor for Karst geographic features which are particularly susceptible to erosion and sediment contamination. Prior to conducting ground disturbing activities, a survey for Karst geographic features will be conducted. Where Karst geographic features are identified, ground disturbance will be avoided. Furthermore, all construction activities will adhere to sediment and control measures and be monitored in accordance with Virginia's Erosion and Sediment Control Handbook. Based on these considerations, the Project will not result in significant adverse impacts on geology and soils.

Water Resources

Construction activities for this Project will occur in previously disturbed areas along existing ROWs. The Project will cross water bodies at six locations. All water crossings will be performed via aerial installation on existing poles, in existing ROWs, to minimize the impact on these water resources. There were no wetlands identified along the Project route. The U.S. Army Corps of Engineers (USACE) was consulted on this Project. The USACE determined that the Project meets the criteria for a Corps Nationwide Permit (12). Conditions imposed by the USACE include a requirement to file a compliance certification form at the end of the Project; to monitor for regulatory changes in the permit itself; and to ensure that the Project adheres to the 401 certification conditions outlined by the Virginia Department of Environmental Quality. These conditions were incorporated into the construction plan for the Project. Through implementation of appropriate BMPs and agency recommendations, no significant adverse impacts on water resources will occur as a result of this Project.

Biological Resources

The Loggerhead Shrike is an endangered or threatened species identified within a four mile radius of the planned fiber route or tower site. It is not anticipated that activities of this Project will impact the Loggerhead Shrike, though PCBA will monitor the Project to ensure that the fiber installation and tower construction will have no impact. The Project route also transects an area that may have Karst geology, which could be habitat for the Madison Cave isopod, a federally listed threatened species. In a letter dated October 5, 2010, the US Fish and Wildlife Service (USFWS) provided the following recommendations for this Project: using aerial cable runs within existing ROWs; using existing utility poles to avoid ground disturbance; conducting a survey for karst features prior to conducting ground disturbing activities; notifying the USFWS if evidence of karst features is documented within a construction area; adhering to sediment and control measures; restoring disturbed areas to their original contours; and revegetating with native vegetation. Implementation of these protective measures will be used to minimize the potential impact on the Madison Cave isopod and other biological resources in the

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area. In a letter dated August 26, 2010, the Department of Conservation and Recreation (DCR) noted that their files do not indicate the presence of any State Natural Area Preserves in the Project vicinity and that the current activity will not affect any documented State-listed plants or insects. The letter from DCR requires that the Project be alert for any changes in conditions that may warrant further review. Through implementation of appropriate BMPs and agency recommendations, the Project will not result in significant adverse impacts on biological resources.

Historic and Cultural Resources

All construction activities associated with the Project are expected to occur on previously disturbed land. Because the Project is located within a Page County Rural Historic District, PCBA completed an Archeological Cultural Resources Record Search and Assessment Report. The report concluded that none of the 29 CAIs to be connected to the network are located in structures constructed more than 50 years ago that have any cultural or historical significance. Furthermore, the report finds that the Project will not have an adverse effect on archaeological sites or historic properties. In a letter dated June 3, 2010, the Virginia Department of Historic Resources (DHR) recommended “a finding of No Adverse Effect to historic properties for the Page County Broadband Authority Fiber Optic Network Infrastructure Project.” In making this recommendation, the DHR relied upon Project plans that include no building alterations; installation of telecommunication lines using hand holes associated with existing telecommunications lines or other utility conduits; and installation of new hand holes in such a way that they will not be visible unless the observer is very close to the installation area.

Through the Tower Construction Notification System, NTIA provided Project details to four tribes interested in the Project’s geographical location (i.e., Page County, Virginia). There were no objections from Tribes regarding the Project. However, in correspondence dated July 19, 2010, the Shawnee Tribe requested that the Rileyville tower site be restored with native vegetation to the maximum extent practicable after construction. Additionally, both the Shawnee Tribe and the Eastern Shawnee Tribe of Oklahoma requested that Page County immediately cease Project activity and resume consultation if any archaeological remains or resources are discovered during Project construction.

The construction of one new tower for this Project was identified as having the potential for significant impact on Skyline Drive, a National Historic Landmark within Shenandoah National Park. Because the tower will be situated on the valley floor, the National Park Service (NPS) determined that the tower will not be visible from Skyline Drive. Nevertheless, to protect the natural setting, NPS requested that the tower be constructed of a weathering steel, that any exposed areas requiring paint be painted brown, and that all cells be painted a color of brown that would help it blend into the terrain. NPS believes that such actions, which have been incorporated into Page County’s engineering plan for the tower, will mitigate potential impacts on the resource. The Shenandoah National Park staff also objected to any lighting of the tower. No lights are currently planned for the tower. However, if the Federal Aviation Administration

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indicates a requirement for lighting, this issue will be revisited by NTIA, NPS, and the Advisory Council on Historic Preservation.

With implementation of key Project components highlighted by DHR, and incorporation of specific tower requirements specified by NPS, significant Project-related impacts on historic and cultural resources are unlikely.

Aesthetic and Visual Resources

The installation of new fiber optic cable on primarily existing poles and in shallow trenches along previously disturbed ROWs will not impact aesthetic and visual resources along the Project route. Thus, the Project will not result in significant adverse impacts on aesthetic and visual resources.

Land Use

All construction activities will occur within previously zoned areas and in existing ROWs. The Project corridor does not contain prime or unique farmland that would be converted. Very minor impacts on land use may occur during installation of new fiber optic cable on primarily existing poles and in shallow trenches along previously disturbed ROWs. However, these impacts will be temporary. Operation of the installed cable to provide broadband services will have no long-term impact on land use in the Project area. Long term impact to land use is anticipated at one new tower, which will be constructed on 20 square feet of land within a 60 square foot fenced enclosure. This tower site will be located in a previously disturbed area adjacent to an elementary school. Based on this evaluation, the Project will not have significant impacts on land use.

Infrastructure

Installation of the Page County broadband network along previously disturbed ROWs will not negatively impact infrastructure in the Project area. In the long term, Project implementation will enhance infrastructure in the area, and broadband service deployment is expected to enhance economic development and cellular coverage and telecommunications for first responders. Accordingly, no adverse impacts on infrastructure are anticipated as a result of this Project.

Socioeconomic Resources

The Page County broadband network will have significant beneficial impacts on socioeconomic resources in the Project area. Construction of this network will result in the creation and implementation of job opportunity programs, spur economic development, and improve educational opportunities in an area with high levels of poverty and unemployment.

Human Health and Safety

Although there are potential health and safety risks associated with constructing the Page County broadband network, these risks will be managed through use of safety BMPs, such as, flags and traffic control procedures. Operation of the broadband network services will not negatively impact human health and safety in the Project area. Instead, beneficial impacts to human health

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are anticipated through access to telemedicine, eHealth and diagnostic technologies offered by the existence of broadband; and a reduction in loss of life due to inadequate communications capabilities for fire, EMS, law enforcement and other first-responder organizations. This Project will have no significant short-term adverse impacts, and will have beneficial long-term impacts, on human health and safety.

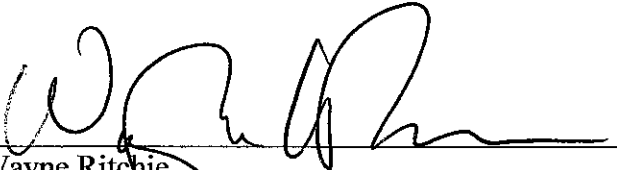
Cumulative Impacts

As described above, the Project will not have significant adverse impacts to any of the environmental resource areas evaluated in the EA. As such, no cumulative impacts to the environment are anticipated.

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

Issued:



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Date