

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact**

**Oconee County, South Carolina, Fiber Optics Creating Unified Solutions (FOCUS) Project**

**Summary**

Oconee County, South Carolina (Oconee County) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to construct 245 miles of nested rings of fiber optic cable that will deliver high-speed broadband service to 90% of the County. The project will pass through the cities of Seneca, Walhalla, West Union, Westminster, and Salem, and reach the unincorporated communities of Long Creek, Mountain Rest, Townville, Oakway, Fair Play, and Keowee. The new middle mile infrastructure will connect approximately 25,200 households, 2,230 businesses, and a total of 164 community anchor institutions (CAIs), including 17 fire stations. Nearly all of the fiber optic cable will be installed underground within existing public rights-of-way (ROWs). Additionally, wireless access points will be installed at 17 fire stations around the County, for use by police, emergency services, County, State, and Federal agencies. The proposed action is referred to as the Fiber Optics Creating Unified Solutions (FOCUS) Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to Oconee County, 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.

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

The Project includes:

- Installing a 245-mile broadband network of fiber optic cable, mostly underground in South Carolina Department of Transportation (SC DOT) ROWs;

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- Using existing conduit on South Carolina Department of Transportation (SCDOT) bridges over waterways;
- Installing gigabit passive optical network (GPON) equipment and wireless access points at 17 fire stations; and,
- Installing hand holes and other network maintenance connections and equipment along the Project route.

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 the Project is to bring affordable broadband service to unserved and underserved communities in South Carolina. The Project will install fiber in areas where, to date, it has not been economically feasible to install telecommunications infrastructure. The middle mile infrastructure will deliver broadband service to Oconee County, SC, providing opportunities associated with broadband technology to 25,200 households, 2,230 businesses, and a total of 164 CAIs. The project will also install wireless access points for police, emergency services, County, State, and Federal agencies at 17 fire stations.

### **Project Description**

The Project involves installing 245 miles of middle mile network and 17 wireless access points. The middle mile infrastructure consists of backbone network lines installed underground in

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public ROWs or in existing conduit. The underground cable will be installed at a minimum depth of 36 inches by vibratory plow or directional bore methods.

Both installation methods will place a 1.25-inch diameter conduit, through which fiber optic cable will be pulled. The vibratory plow method installs the conduit by continuously opening a slit trench, feeding the conduit into the trench, and closing the trench as the plow moves forward. With the directional boring installation method, insertion and extraction areas are identified and usually excavated to the depth of the conduit. A drilling machine then bores between the insertion and extraction pits, and conduit is pulled through the borehole.

All installation of fiber optic cable will be within public highway and road ROWs, along established electrical distribution or telecommunications cable routes. No cable will be installed outside of ROWs. Palmetto Utility Protection Service (PUPS) will identify existing underground utilities so that construction work does not damage or disrupt existing infrastructure or present safety hazards to construction personnel or equipment.

Hand holes and other connection and maintenance structures will also be installed along the project route. Buried maintenance enclosures, measuring 30 x 48 x 36 inches, will be installed at cable-splice points and where inspection and maintenance activities are required. Top sides of the hand holes and maintenance enclosures will be flush with the ground surface at the conclusion of the construction work. All hand-hole lids will be marked, "Oconee FOCUS."

Broadband services will be brought to the 147 CAIs by fiber optic cable routed from gigabit passive optical network (GPON) equipment installed in 17 fire stations. All GPON equipment will be installed in internal equipment rooms, on existing desk space or in electronics racks at each fire station. The Project will connect the 147 CAIs to the fire station GPON equipment by underground cable or through existing utility conduit, where available. Including the equipment installed at the 17 fire stations, the Project will connect to a total of 164 CAI and no structural modifications will be made to these buildings.

Additionally, the Project will install wireless access points for use by police, emergency services, County, State, and Federal agencies. The wireless equipment will be installed in the fire stations and tuned to serve only the fire station building and vehicle parking lots.

### **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).* The Project involves installing 245 miles of middle mile network and 17 wireless access points. Construction will take place within public ROWs, along established electrical distribution or telecommunications cable routes, and in fire stations and other CAI structures. No cable will be installed outside the

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ROWs, and there will be no construction of new buildings, or modifications to existing structures or buildings.

*Alternative 2 – Aerial Fiber Installation Alternative.* The Project considered installing all 245 miles of fiber optic cable aerially. The Aerial Fiber Installation Alternative would have followed the same general route as the Preferred Alternative, except it would require installation of new utility poles to hang the fiber optic cable. This alternative is evaluated throughout the EA; however, it was not chosen as the Preferred Alternative because of lack of poles along the Project route and the cost of their installation. Due to the mountainous topography and harsh climate conditions, local power companies are choosing to invest in buried cable rather than aerial infrastructure.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in Oconee County, SC. Under the no action alternative, new middle mile infrastructure would not be constructed. Many rural communities would continue to be unserved or underserved with respect to broadband internet access. Additionally, broadband services would not be provided to CAIs in the Project area. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

*Alternatives Considered But Not Carried Forward.* Oconee County considered an all-wireless telecommunications network. However, wireless technology is not a viable alternative because of limited “line of sight” due to the mountainous topography, and the comparatively high installation cost.

## **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, Infrastructure, Socioeconomic Resources, and Human Health and Safety.

### ***Noise***

Short-term increases in ambient noise levels will occur during the Project construction period. Construction of the network requires the use of heavy machinery such as vibratory plows and directional drilling equipment. However, noise associated with construction equipment will be localized and limited to brief periods along any particular section of the Project route. Noise associated with maintenance of the network will be similar to existing noise from routine utility maintenance. Based on these conditions, no significant impacts on noise are expected to occur as a result of Project implementation.

### ***Air Quality***

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This Project requires the use of construction equipment powered by internal combustion engines using fossil fuels and, thus, will generate emissions of air pollutants. Additionally, fugitive dust emissions are expected when vibratory plow and directional drilling equipment disturbs and exposes surface soils. Dust emissions will vary depending on weather and level of construction activity. Air quality will also be affected by exhaust emission from delivery vehicles and construction equipment both during the Project and for maintenance of the cable after installation.

It is estimated that this Project will result in the release of approximately 1,010 metric tons equivalent of carbon dioxide 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 considerations, as well as implementing industry standard BMPs to limit air quality impacts, construction of the planned network is not expected to have significant adverse impacts on air quality.

***Geology and Soils***

The Project will be installed in previously disturbed public ROWs. The cable will be installed in these locations to, among other considerations, minimize impacts to geologic and soil resources. Both vibratory plowing and directional boring techniques result in minor, temporary disruption of the soils. After the vibratory plow inserts the conduit, the ground is packed back into place with minimal disturbance. Similarly, the Project will implement industry standard BMPs to control erosion from construction vehicles and directional boring equipment, including use of the Vemeer Vacuum Excavation System to control excess water around the drilling site. In summary, the Project is not expected to result in significant adverse impacts on geology or soils.

***Water Resources***

Project construction activities could result in short-term, minor impacts on water resources within the Project area, primarily due to erosion and runoff from active construction sites. Most of the Project will use existing SCDOT ROWs along roadways and conduits on bridges to traverse over waterways to install fiber optic cable. Use of existing ROWs will ensure construction avoidance of waterbodies in the Project area. In the unlikely event, that Oconee County will need to bore fiber under a small stream, the County will contact the USACE to determine the appropriate methodologies and obtain necessary permits. By implementing industry-standard BMPs to minimize erosion and runoff and installing the cable via existing bridge conduit, Oconee County will construct the network with little or no impact on water resources in the Project area.

***Biological Resources***

The Project will result in minor impacts on biological resources. Noise and human activity associated with fiber installation along the ROWs are expected to disturb some wildlife species, but these effects will be minor and temporary, and comparable to typical roadway traffic noises presently existing along the Project route. Some disturbance to the ground surface and vegetation will also occur during construction activities. This disturbance will be largely limited to previously disturbed ROWs.

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In a letter dated January 6, 2011, the U.S. Fish and Wildlife Service (USFWS) determined that no Federally listed species, candidate species, or designated critical habitat is located within the Project area.

Vegetation will be cleared for construction equipment access. Any vegetation cleared for the Project would be similar to existing roadway and utility maintenance work, and the cut vegetation is expected to grow back to existing conditions. By limiting ground disturbance and vegetation removal, and by implementing appropriate BMPs to prevent erosion, the Project will have no significant adverse impacts on biological resources.

***Historic and Cultural Resources***

In November 2010, NTIA initiated correspondence with the South Carolina State Historical Preservation Agency (SHPO). In a letter dated December 31, 2010, the SC SHPO confirmed receipt of the project proposal. The SHPO concurred with the assessment that no properties listed in or eligible for listing in the National Register of Historic Places will be affected by this project provided that all ground disturbance is contained to the previously disturbed road right-of-way and will not exceed past the ditch line. The SHPO stipulated that should construction occur in an area that has not been previously disturbed by utilities installation or other ground disturbing activities, Oconee County will contact the SHPO for further review. Also, if archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply, and Oconee County will contact the SHPO.

Through the Tower Construction Notification System (TCNS), NTIA provided Project details to seven Tribes interested in the Project's geographical location (South Carolina). Two of the seven tribes notified responded via TCNS stating that they had no interest in participating in the project, but requested to be immediately notified in the event any human remains or any archaeological properties are discovered during construction. The remaining five Tribes responded to the notification by requesting additional information about the project. Recipient provided additional written notification to four of the tribes in March 2010. One tribe responded that they had no additional interest in the project and three remaining tribes provided no response to the additional information sent by recipient. One tribe, the Shawnee Tribe, was provided additional written information on May 31, 2010. If the Shawnee Tribe provides a response to the recipient with any concerns, the recipient shall notify and consult with the NTIA and the Shawnee Tribe to resolve the identified concern.

All construction will be restricted to previously disturbed areas. If any cultural material is discovered during construction, the SHPO will be notified immediately and construction halted until a qualified archaeologist assesses the cultural remains. If any human skeletal remains or protected Native objects are uncovered during construction, construction will stop immediately, and all consulting parties will be contacted. Based on these consultations and guidance from the commenting agencies, the Project is not expected to have significant adverse impacts on historic and cultural resources.

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***Aesthetic and Visual Resources***

The Project will involve construction within a number of different surroundings including rural roadways adjacent to agricultural fields, natural areas, a national forest, urban streetscapes, and commercial districts. All new cable will be placed with existing ROWs or conduits. In general, aesthetic disruptions for most areas will be limited to the duration of construction and primarily in the form of the short-term presence of construction equipment. The Oconee County Project primarily involves installing buried fiber optic cable within previously disturbed ROWs. There will be no cable installed outside of the public highway and road ROW. Accordingly, the preferred alternative is not expected to have a significant adverse impact on aesthetic and visual resources in the Project area.

***Land Use***

The infrastructure necessary to complete this Project will be installed within existing roadway ROWs and existing utility easements over bridges. These improvements are consistent with normal uses of right-of-ways and easements. Portions of the Project will traverse the Sumter National Forest. A total of 52.2 miles of highways and roads will ‘touch’ the U.S. Forest Service (USFS) land where fiber optic cable will be installed. According to correspondence with the USFS dated February 1, 2011, Oconee County will be required to obtain the necessary permits from the agency before installing fiber optic cable along portions of the fiber route. The pending permitting process will determine which Project segments require a permit. No adverse impacts to the USFS lands are anticipated. There will be minimal short-term effects and no long-term impacts on existing use or zoning. Therefore, the Project will have no significant impact on land use.

***Infrastructure***

Fiber optic cable will be installed underground and through existing bridge conduits over waterbodies, in a manner that will not damage existing utilities. Electric power service is not expected to be disrupted during construction of the Project. The new fiber optic cable and additional broadband capacity will enhance and not adversely impact any existing infrastructure. The Project will improve communications infrastructure and is expected to result in improved transfer of information between CAIs, first responders, businesses, and individuals within the communities along the Project route. Overall, the Project will have a positive impact on infrastructure in Oconee County, S.C.

***Socioeconomic Resources***

The Project will improve communications infrastructure among residents who do not have access to broadband services in Oconee County, S.C. The Project will also improve communications for first responders by providing wireless broadband at the 17 County fire stations. The middle-mile fiber backbone will also benefit these communities by providing broadband capabilities to 164 CAIs. An increase in both short-term and long-term employment opportunities are expected to result from the Project. Overall, the Project will have net positive impacts on socioeconomic resources.

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***Human Health and Safety***

There are several Brownfields within the area of the Project. However, because the construction will occur in previously disturbed ROWs, it is unlikely that any contamination will be encountered during installation. If contaminated soil is encountered, Oconee County will halt construction, notify the proper authorities, and seek appropriate technical advice and assistance with the management of the contaminated project segment. There will be minimum non-hazardous construction waste associated with the Project. These items, such as cable trimmings and packaging materials, will be properly handled and disposed of, meeting all approved disposal methods.

In addition, Palmetto Utility Protection Service (PUPS) will be used to locate and mark existing utilities to ensure no existing lines are disturbed. All construction activities will be conducted by qualified, licensed contractors who will follow specific safety regulations, including the SCDOT guidelines for construction along road ROWs. Workers will be required to meet OSHA standards for worker visibility, equipment signage, and licensing requirements. Work within urban areas shall maintain safe pedestrian routes. With implementation of these protocols, the Project will not generate any significant adverse worker or traffic-related health or safety issues. Further, the new fiber will provide broadband service and directly connect medical facilities. The Project will enhance emergency and medical services and improve human health and safety throughout the Project area.

***Cumulative Impacts***

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

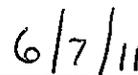
**Decision**

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, the signed PA, 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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