



Oconee County, SC FOCUS Project

Broadband Technology Opportunities Program

Environmental Assessment Report Submitted to the NTIA

Revised March 2011

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Executive Summary

Oconee County SC has received \$9.6M in Federal ARRA funding to construct a 245 mile Broadband network in the County. This letter is a brief introduction into the project.

The approved fiber build, in the form of a number of nested physical rings, will cover over 90% of the County and interconnect with adjacent cities and states. The rings will pass through the Cities of Seneca, Walhalla, West Union, Westminster and Salem South Carolina. The unincorporated communities of Long Creek, Mountain Rest, Townville, Oakway, Fair Play and Keowee will also benefit from interconnection to the fiber network.

The total number of households that will be passed by the Project is 25,200. The total number of businesses that will be passed by the Project is 2,230. The Project will be involved with approximately 75 public facilities including hospitals, schools, libraries and health care facilities, emergency evacuation shelters and Public Safety Search and Rescue staging areas.

The Project will provide critical broadband infrastructure that will benefit the County through connection of 164 Anchor Institutions and by providing much needed high speed data. The Project will facilitate the expansion of medical and health-related programs to areas that are currently physically or financially unreachable, and connect larger hospital complexes with smaller counterparts in more rural communities. The Project will also support multiple municipal services, including public safety and public utility access. Additionally, the Project will interconnect Federal, State, and Local Governmental agencies throughout the County. Rural Fire Stations, Evacuation Centers, Community Centers, Search and Rescue Staging Areas and Public Wireless access points provide a sustainable infrastructure to support much needed data and communications services.

Network Topology Overview

The following information is provided to further define the design and operation of the fiber optic network. It describes the ring and spur topology, facilities, hardware selection, and third party vendor interconnection methodology.

The Oconee County FOCUS fiber network is composed of approximately 245 miles of underground single mode fiber in bundled counts of 288, 144, and 96 individual fibers.

The network is a combination of self-healing concentric ring and spur technology. Rings are used when practical depending on area terrain serviced; the economics associated with deployment and population densities. There are a number of concentric sub rings attached to the core ring. These rings are interconnected via fusion splicing to the core ring with Ethernet concentrators providing IP connectivity. These sub rings may use dedicated fiber back to the Network Operations Center (NOC) or be carried on a shared aggregation fiber back to the NOC(s) depending on traffic and location. For example, a nested ring that serves a limited number of residential customers may use a shared fiber for transport back to the NOC(s). The business park located near Interstate-85 would use a dedicated fiber for transport to the NOC(s).

There is a core ring with 2 proposed points of internet connectivity in different cities that also act as peering points for the network and provide connectivity to other carriers. Walhalla, SC and Seneca, SC are the 2 NOCs. Internet connectivity flows through these locations to both downstream and upstream locations. The Network Operations Center can operate independently and both NOCs contain identical hardware. Presently, Charter Communications has expressed a desire and provided costing for Internet access via a dedicated fiber connecting to the County network at a location approximately 4 miles northwest of the Walhalla NOC on State Highway 11 and at the County line on State Highway 24 at the Anderson County line. Alternate Internet services providers will be added via the Seneca NOC.

The backbone of the network consist of a north-south 288 count fiber run and an east-west 288 count fiber run. The choice of 288 fiber count was made to capitalize on the need for transport through the area while allowing for a higher dark fiber sales along these paths. The core ring and all sub rings use this path for transport to the NOCs.

Oconee County intends to bury all fiber cable using directional boring and vibratory plow techniques. The cable paths will follow existing road rights-of-way (ROW) on South Carolina State Roads. The higher density fiber runs will be along the major roads including Highway 11, 183, 123, 76, 130, and 28. This backbone will be utilized to connect 164 Community Anchor Intuitions (CAI's) and be a staging point for last mile companies to connect households and businesses.

The planned project route has been designed to avoid any historical, brown fields, wetlands, or tribal sites. The FOCUS team wants to work with the respective agencies to ensure compliance. The goal is to utilized pre-existing accesses that has minimal impact to Oconee County.

If you have questions or concerns please feel free to Contact the FOCUS Project Manager, Kim Wilbanks kwilbanks@oconeesc.com or (864) 718-1040

Kim Wilbanks

Oconee County FOCUS Project Manager

Oconee County "FOCUS" Project (EGID # 7461)

Network Diagram

