

APPALACHIAN VALLEY FIBER NETWORK, LLC (AVFN)

Fiber Optic Network Infrastructure Project

NEPA Environmental Assessment

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EXECUTIVE SUMMARY

Introduction

The Appalachian Valley Fiber Network, LLC (AVFN) is a comprehensive community infrastructure initiative spanning two states in northwest Georgia and northeastern Alabama to stimulate economic growth through improving the broadband infrastructure in this lower Appalachian Valley region. The AVFN has completed an Environmental Assessment (EA) in support of its application for grant funding from the U. S. Department of Commerce (USDOC) National Telecommunications and Information Administration (NTIA) Broadband Technology Opportunities Program (BTOP). BTOP provides funds for projects that afford comprehensive community infrastructure, public computer centers, or sustainable broadband adoption in unserved or underserved areas of the United States. Grant funding has been made possible through the American Recovery and Reinvestment Act (ARRA) of 2009.

The NTIA, the lead federal agency which administers the BTOP grant program, has provided funding for AVFN's infrastructure project for the purpose of enabling a new technology-based economy in the lower Appalachian Valley by deploying a regional fiber-optic network ring. The result will be the improvement of broadband service in unserved and underserved areas, stimulation of economic growth and job creation, and increased availability and reliability of broadband for local households, businesses, and community anchor institutions.

Under the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470 1966) with its implementing regulations in 36 CFR 800, and the BTOP's NEPA and NHPA Guidance for Round Two Applicants (USDOC 2010b), BTOP is required to integrate environmental values into their decision-making processes by considering the environmental impacts of their grant awards. This Environmental Assessment (EA) has been prepared in support of a BTOP grant application and to satisfy Special Award Conditions (SACs) associated with the grant award.

Purpose and Need

The purpose of the BTOP is to expand the availability of broadband services to unserved and underserved areas in the United States. The proposed AVFN infrastructure project represents a beneficial effect, in the long-term, through stability and vitality within the local economies of northwest Georgia and northeastern Alabama. The project area currently has minimal to no broadband coverage.

The project will provide the infrastructure for community anchor institutions, such as schools, libraries, hospitals, and public safety facilities to successfully connect to the greater middle-mile broadband network in an area where these services have traditionally been challenged by funding constraints, difficult terrain, rural lifestyles and communities, and middle to lower income populations of northwest Georgia and northeast Alabama.

The project will maintain an open network for independent service providers to interconnect with and to build their own fiber-optic services out to end users. It will also stimulate the demand for broadband services and create a technology-based economy and new jobs in otherwise economically-challenged areas of northern Georgia and Alabama. The project will deliver gigabit broadband speeds and the reliability of geographic redundancy which was never available before in this region. The long term stimulus effect from the successful completion of the project will mean not only meeting the fundamental intent of ARRA, but a measurable improvement in the lives of citizens of northern Georgia and Alabama through more opportunities to learn, grow, and succeed. Over the long term, increased demand for and

use of broadband service by educational institutions, medical facilities, and public safety agencies in the region will enrich the lives of the local communities in which they serve.

Proposed Action and Alternatives

Various alternatives were considered during the planning and design of the project for their feasibility in meeting the project's purpose and need. The proposed action and Preferred Alternative is a middle-mile fiber network installed underground primarily in US and State highway Rights-of-Way (ROW). Alternatives considered, but eliminated were the All Aerial Installation Alternative and Wireless Technology Alternative. The All Aerial Installation Alternative is not feasible due to the need to secure ROW agreements from both the utility pole owners and numerous private landowners. Also, this Alternative is susceptible to outages during storm events that would compromise public safety and healthcare community anchor institutions response to the community's needs during a disaster. The Wireless Alternative would not install fiber optic cable along route alignments, but rather send data wirelessly via microwave or cellular technology. This technology would not meet the purpose and need of the project which calls for gigabit speeds and an open access broadband network in the middle-mile. Thus, one build alternative, the proposed action/Preferred Alternative, and a no build/No Action Alternative were analyzed in detail in the EA.

The Preferred Alternative is installation of an approximately 291-mile middle-mile fiber optic cable system consisting of fiber optic cable within conduit and telecommunication vaults to connect segments of cable and serve as interconnection points for last-mile service. There is an in-kind contribution from Parker Fibernet, LLC of approximately 49 miles of existing fiber optic cable segments. The project area is presented below. Route segments cross portions of Catoosa, Walker, Chattooga, Gordon, Floyd, Bartow, Paulding, Polk and Haralson Counties, Georgia and Calhoun and Cleburne Counties, Alabama. The fiber network will be installed within Rights-of-Way (ROW) of US and state highways, county roads, city streets, and utility easements. The use of utility easements is limited to two short route segments.

The Preferred Alternative involves underground installation of conduit, fiber optic cable and telecommunication vaults. Underground installation would be accomplished by plowing, trenching, or directional boring. The first method of choice for installation is via vibrating plow. If plowing is precluded in an area due to subsurface conditions, then trenching would be used. In areas where surface disturbance is undesirable or prohibited such as at road or railroad crossings or at environmentally sensitive areas such as stream crossings and wetlands, the first installation method of choice is directional boring under the surface feature. If installation via directional boring failed, then the contingent installation methods in order of preference would be aerial installation on existing utility poles, attaching the fiber optic conduit to a bridge at a stream crossing, or installation of new poles for an aerial crossing.

Potential Impacts

The Preferred Alternative is designed to avoid impacts through siting and design. The route alignments were developed in consideration of existing land use, water, biological, infrastructure, and cultural resources to minimize impacts to these resource areas as much as practicable through avoidance. The underground installation avoids impacts to visual resources and the proposed installation methods minimize impacts from erosion and sedimentation. In addition, impacts to surface water resources and aquatic ecology would be avoided by use of directional boring at all stream crossings.

The EA identified potential adverse impacts to the environment as a result of the Preferred Action. The impacts were primarily minor, temporary construction-related impacts that would be minimized with mitigation measures and best management practices. Beneficial impacts are expected during operation of the fiber optic network. The impacts are summarized below in the following table.

Resource Areas	Impacts		
	Preferred Alternative		No Action Alternative
	Construction-related	Operation-related	
Noise	No significant	None	None
Air Quality	No significant	None	None
Geology and Soils	No significant	None	None
Water Resources	No significant	None	None
Biological Resources	No significant	None	None
Cultural Resources	No significant	None	None
Aesthetic and Visual Resources	No significant	None	None
Land Use	None	None	None
Infrastructure	No significant	Beneficial	None
Socioeconomic Resources	No significant	Beneficial	Continued adverse
Human Health and Safety	No significant	Beneficial	None

The following mitigation measures will be used during construction to minimize impacts.

Geology and Soils

- Erosion and sediment control methods will be employed as required by the Alabama and Georgia Departments of Transportation. Excavations will be backfilled and compacted. Excess soil will be removed from the site. Excavations for telecommunication vaults will be covered with a flush-mount lid and area seeded and covered with a straw layer.
- If contaminated soil is encountered during construction, ALDOT- and GADOT-provided mitigation procedures will be instituted immediately beginning with notification to the appropriate authorities. If such obstructions are encountered, route changes will be made to avoid a disturbance and to diminish any further disturbance.

Water Resources

- Directional boring will be used for all stream crossing and associated buffer areas.
- AVFN will implement work practices to protect groundwater as well as surface water resources from accidental spills. Whenever practical, equipment will be fueled at service stations. For fuel at work sites, fuel will be delivered to the site in tanks mounted on a truck and hoses will be used to transfer the fuel to the equipment. If fuel is spilled, then appropriate spill response procedures will be initiated immediately such as using environmentally approved, liquid absorbing material and removing the soil around the spill site.
- If contaminated groundwater is encountered during construction, ALDOT- and GADOT-provided mitigation procedures will be instituted immediately beginning with notification to the appropriate authorities. If such obstructions are encountered, route changes will be made to avoid a disturbance and to diminish any further disturbance.

Biological Resources

- Directional boring will be used in environmentally sensitive areas including for all stream crossing and associated buffer areas to eliminate or minimize impacts by installing the conduit and cable beneath the surface feature.
- As required by the US Fish and Wildlife Service, for any Calhoun County, Alabama bridge crossings (i.e., bridge attachment in the event of directional boring failure) during months other than the winter months of November through March (i.e., the hibernation season), surveys for the endangered gray bat will be conducted. Crossing by directional boring or aerial crossing using existing poles at any time of the year does not require surveys for the endangered gray bat.

Cultural Resources

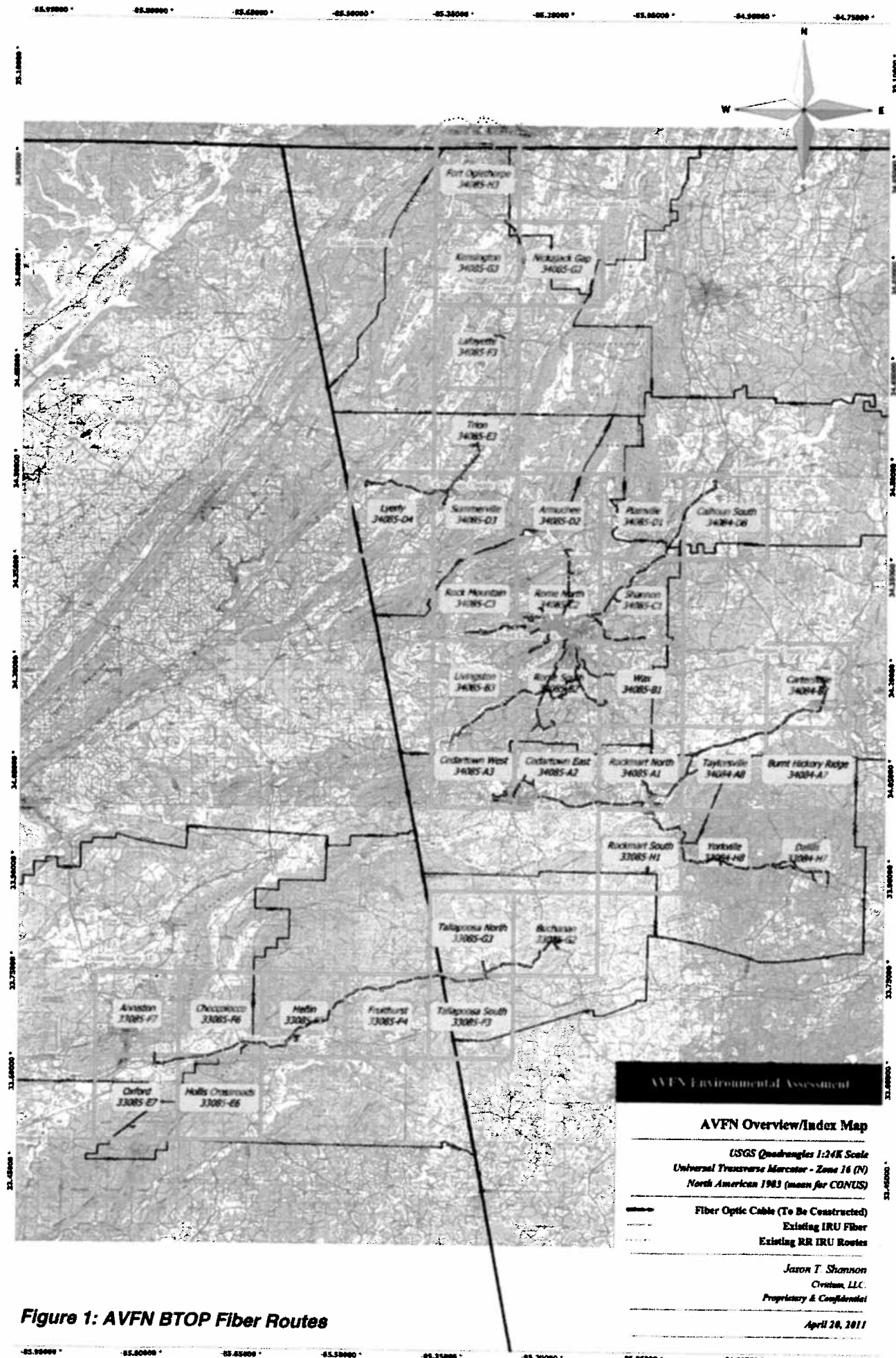
- Areas sensitive for archaeological resources and graves will be monitored during construction.

Infrastructure

- Traffic control measures will be implemented which follow the Work-Area-Protection procedures provided by ALDOT and GADOT. If lane closures are required, the Work-Area-Protection procedures will be followed. Traffic control methods to be used as appropriate include flagging using certified flaggers, cones, signage, arrow boards, and pilot vehicles.

Human Health and Safety

- If contaminated soil, groundwater, or other contaminated obstructions are encountered during construction, ALDOT- and GADOT-provided mitigation procedures will be instituted immediately beginning with notification to the appropriate authorities. If such obstructions are encountered, route changes will be made to avoid a disturbance and to diminish any further disturbance.



AVFN Environmental Assessment

AVFN Overview/Index Map

*USGS Quadrangles 1:24K Scale
Universal Transverse Mercator - Zone 16 (N)
North American 1983 (mean for CONUS)*

Fiber Optic Cable (To Be Constructed)
 Existing IRU Fiber
 Existing RR IRU Routes

*Jaron T. Shannon
Cristan, LLC
Proprietary & Confidential*

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Figure 1: AVFN BTOP Fiber Routes