Broadband Technology Opportunities Program

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Buggs Island Telephone Cooperative

BIT Wireless Broadband Initiative

Environmental Assessment

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Executive Summary

Overview

Buggs Island Telephone Cooperative (BIT), located in Bracey, Virginia, was founded in 1951 and has been providing telephone and broadband services to households and businesses in Southern Virginia for 60 years. The company currently operates a traditional wireline network and manages 18,000 telephone access lines in portions of Mecklenburg and Brunswick Counties. It currently provides local, long distance, broadband, and other communications services to more than 4,000 subscribers. It also launched wireless broadband service in an adjacent area of Virginia in early 2010.

This project will provide high-speed wireless broadband Internet access on a non-discriminatory basis to underserved and unserved rural citizens and businesses in a fifteen county area of Southern Virginia. This region, known as Southside Virginia, includes 38 incorporated towns and two cities. The foundation for this network is the BIT ownership of a 700-megahertz spectrum license that was acquired from the Federal Communications Commission through an auction process. The wireless licensed area includes a population of 239,794 people with 100,989 households and 14,882 business locations. Prominent community anchor institutions within the area include 36 libraries, 21 colleges, 5 hospitals, 408 other medical facilities, 79 fire departments, 30 rescue operations, and 39 law enforcement departments.

The wireless broadband network will utilize proven 802.16e WiMax equipment to provide broadband data services. The network has been engineered based upon the use of 35 existing cell towers to accelerate the pace of deployment and reduce the environmental impact. 34 of these sites are registered with the FCC and contained within their online database. The other tower, located atop Willis Mountain, is not registered with the FCC as it is privately owned and under 200 feet in heighth. Although 34 out of the 35 towers are licensed by the FCC, project activities do not require any licenses or registration so the ACHP Program Comment is not relevant in this case.

In addition to placing WiMax wireless broadband equipment and antennas on each tower, a 10x10 metal grate will be required at the base of 34 of the existing towers to provide a platform for outside plant cabinets. Since BIT has access to an existing building at the South Hill/Lacrosse site, no grate or cabinets will be required at that location. "Backhaul" service will be provided over fiber optic cable, when possible, by leasing capacity over the Mid-Atlantic Broadband Cooperative network. Only 25 of the existing tower sites currently have fiber optic cable available so microwave radio will be utilized for "backhaul" from ten of the sites to connect to an adjacent tower site where fiber optic cable is available. In addition, core equipment will be placed inside BIT-owned buildings in Bracey, Virginia, with no exterior modifications required. At 34 of the sites, this project will require approximately 30-40 feet of trenching to place conduit along with minimal ground disturbance to level the metal grate. The conduit will house cable to connect AC power and telco facilities from existing on-site sources to the new cabinets that will be mounted on the grates. All work will be contained within the previously disturbed property of the existing tower sites. Since the South Hill/Lacrosse site has an existing building with existing AC power and telco facilities, no ground disturbance will be required at that location.

This project was designed to provide the maximum benefits for the residents of the area with the least possible impact upon the environment and the population. By placing wireless equipment on 35 existing cell towers, the construction of new cell towers will not be required. In fact, the total days of outdoor construction on this project are estimated to be less than one week per cell site and very temporary in nature. Ground disturbance will be held to a minimum with only 30-40 feet of trenching required per site. Since this will be totally contained within the previously disturbed property of the existing towers, there should be no impact upon soil or water resources. Likewise, there should be no impact upon biological resources as the Virginia office of the U.S. Fish and Wildlife Services has stated that "Co-locations of new equipment and antennae or any infrastructure improvements at an existing structure (tower, water tank, building, etc.) where all ground disturbances occur within the cleared or regularly mowed area" will have "no effect" on federally listed threatened and endangered species and are "unlikely" to disturb bald eagles.

In consultations with The Department of Historic Resources in Virginia and various Tribal Representatives, there was agreement that this project should have no impact upon historic properties or known archaelogical sites. As is customary, they have asked for work to be stopped and that they be notified if any archaeological findings are uncovered during the construction process.

Also, since this project is utilizing existing cell towers, it will have no impact upon existing land use and minimal impact upon the aesthetic and visual resources. Although additional equipment will be placed on the existing towers, it will be in keeping with the type of equipment that currently exists on these towers and will not stand out as being different from the normal appearance that the general population has come to expect of cell towers.

This project will bring affordable broadband service to a 15 county unserved and underserved region so the socioeconomic impact will be significant. This area is rural in nature with average incomes under the national average and it has not been economical for existing service providers to offer broadband service in the past. Therefore, since the environmental impact from this project is minimal and the potential social impact upon these communities is significant, it can be concluded that the benefits of this project far exceed the risk and that this project will have no significant impact upon the environment.