Broadband USA Applications Database

Applicant Name: CITY OF CHESAPEAKE

Project Title: Chesapeake VA Broadband Communications Improvement Project

Project Type: Comprehensive Community Infrastructure

_______________________ Executive Summary _______________________

The City of Chesapeake (Chesapeake) is located in the Hampton Roads region of southeastern Virginia. The City is home to more than 225,000 residents living in almost 80,000 households and approximately 14,300 businesses operate within its boundaries. About half of Chesapeake’s 353 square mile land area is rural in nature, with limited or no broadband connections to community anchor facilities in those rural areas. Chesapeake has developed a plan to provide wide area broadband services to Community Anchor facilities for the purposes of enhancing vital citizen services, cutting operating expenses, and building upon technology investments that will enable City employees to be more efficient. This project is titled, the “Chesapeake VA Broadband Communications Improvement Project” and it will provide for the “mission critical” needs of its users, such as Fire, Emergency Medical, Law Enforcement, and Emergency Management services. On May 12, 2010, the Federal Communications Commission granted Chesapeake’s petition for waiver, filed on July 9, 2009, requesting the ability to move forward the construction of a regional interoperable wireless broadband network in the 700 MHz public safety broadband spectrum. See Requests for Waiver of Various Petitioners to Allow the Establishment of 700 MHz Interoperable Public Safety Wireless Broadband Networks, PS Docket No. 06-229, Order, FCC 10-79 (2010). This application is in response to the grant of the City’s petition. Wireless networks designed, owned, and operated by Chesapeake have proven to be more reliable than commercial voice and data services when Public Safety and other community anchor institutions needed them the most.

Southeastern Virginia’s most probable natural disaster scenario is a hurricane or tropical storm. During the most recent major tropical event in 2003, Hurricane Isabel came ashore with 105 mph winds just south of Chesapeake at Hatteras Island, North Carolina. By the time Isabel reached Chesapeake, the hurricane had diminished to tropical storm status, but the devastation unleashed on the City was nonetheless destructive. Commercial wireless and landline phone, cable television, and terrestrial broadband circuits were disabled and were unavailable to provide access from the City’s network to facilities remote from the Civic Center for several days after disaster recovery efforts commenced. IP-enabled broadband networks would provide a more efficient information flow between the City’s Emergency Operations Center and emergency responders in the field. In this application, Chesapeake proposes the development and deployment of a high-capacity, fault-tolerant IP/MPLS wireless network to support fixed and mobile community anchor users with ever-increasing broadband needs as the virtualization of the City’s business for its citizens transforms a once spread out collection of communities at its inception in 1963 to a “connected community” 50 years later. Chesapeake is in dire need of: (1) a state-of-the-art public safety network that will provide first responders access to wireless broadband services, increased interoperability of voice and data services, and dynamic multimedia
applications; and (2) a robust Middle Mile broadband network that will give broadband providers access to the facilities necessary to deliver affordable wireless broadband service to community anchor institutions, public / affordable housing communities, and end user customers through future commercial broadband extensions into unserved and underserved areas of the 353 square mile city. The Chesapeake Broadband Communications Improvement Project will satisfy these needs. Moreover, Chesapeake will leverage existing wireless communications infrastructure as an efficient means to address the unmet needs of the city. This project will take advantage of millions of dollars in existing assets including developed sites, towers, power systems, hardened infrastructure, and experienced personnel to build, own and operate Chesapeake's proposed broadband networks. There are four broadband communications systems to deploy for the Chesapeake VA Broadband Communications Improvement Project: 1. A hardened, robust 700 MHz LTE broadband wireless data system that provides sufficient capacity, throughput, and wide area coverage to support public safety emergency responders and their headquarters, public health officials, and emergency management personnel and other mission-critical Community Anchor agencies. 2. An Ethernet IP/MPLS microwave radio system. This network will provide broadband capacity throughput to support Ethernet transport for Last Mile and other Middle Mile improvements. 3. A 4.9 GHz broadband data network to serve fixed public safety facilities as a hardened, robust wide area network. 4. An unlicensed broadband data network to serve Chesapeake's schools, libraries, community centers, Public/Affordable/Senior housing communities, and the Voter Registrar. This project is designed to meet the following BTOP CCI Priorities: 1. Middle Mile infrastructure with commitment to Community Anchor institutions. 2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders. 3. Middle Mile project with intent to bolster growth in economically distressed communities. 5. Middle Mile project with commitment to public safety entities. 6. Last Mile infrastructure component. A significant challenge to effective prevention, response and recovery efforts is interoperable communications among first responders. The proposed 700 MHz LTE broadband interoperable communications network consists of several important subsystems that holistically provide present or future improvements for all multi-discipline, multi-jurisdictional voice and data interoperable communications. These network subsystems include a robust, self healing, multi-site microwave network that provides broadband data backhaul for the proposed mobile Last Mile and fixed Middle Mile networks. This microwave network will provide backhaul for current and planned upgrades to the city's land mobile radio systems and the interoperable broadband data network. Coordinated deployment of interoperable data communications, such as information sharing technologies, regional notification/warning networks, automated license plate readers, automated citation devices, automatic vehicle/location technology, public safety geo-spatial tools, control devices for traffic signals and commuter information displays, next generation 911 technology, and other public safety mobile data applications has been challenged by cost, spectrum deficiencies, and diverse and challenging topography. Chesapeake would provide a 20% match for this project and its various departments are partnering to support the project. Chesapeake also pledges to build and operate this network with reasonable network nondiscrimination, interconnection and management policies. Because it already operates a variety of voice wireless radio networks, Chesapeake owns and maintains all of the real estate and towers and structures where the proposed network would be deployed and the City will not deploy any new sites as part of this project.
As part of the build out of the current wireless network, the City consulted with the Chesapeake Environmental Coordinator and there are no outstanding issues regarding environmental concerns.