

Draft Environmental Assessment

**North Carolina Highway Patrol VIPER Communications
Tower – Warrenton (HP-1299)**

Warrenton, Warren County, North Carolina

North Carolina Crime Control and Public Safety/North Carolina Emergency
Management

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1.0 INTRODUCTION

This Draft Environmental Assessment reviews expected environmental impacts associated with the proposed construction of the Warrenton VIPER Communications Tower using grant funds from the Homeland Security Grant Program (HSGP), administered by the Federal Emergency Management Agency (FEMA) of the U.S. Department of Homeland Security. (The Homeland Security Grant Program is one of over 20 grant programs authorized by Congress and implemented by the Administration to help strengthen the Nation against risks associated with potential terrorist attacks.) The HSGP requires grantees to comply with all relevant Federal Laws, Executive Orders, and regulations including the National Environmental Policy Act (NEPA).

2.0 PURPOSE AND NEED

The purpose of the proposed action is to meet current radio frequency coverage needs of the North Carolina Highway Patrol in Warren County and surrounding areas while promoting interoperability of federal, state, and local government emergency services and first responders. According to the Voice Interoperability Plan for Emergency Responders Legislative Report, dated December 2004; when completed the VIPER communications network will provide federal, state, and local government entities the following benefits, which are currently unattainable using existing communications technologies:

- Seamless statewide voice communications for emergency services first responders
- Seamless interagency communications for emergency services first responders
- Unobstructed flow of criminal information across law enforcement agencies
- Improved safety of emergency services officials and first responders
- Improved public safety service for the citizens of North Carolina

3.0 ALTERNATIVES CONSIDERED

3.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the communications infrastructure would neither be developed nor enhanced, current emergency services radio system network requirements would operate less efficiently, which would limit emergency responses. Current communications systems operated by many North Carolina state agencies as well as local government organizations have many problems associated with the overcrowding of channels, outdated or unserviceable equipment, inadequate vendor support, unavailable replacement parts, and routine system failures that would require extensive amounts of funding for updating the existing equipment to meet federal mandates that require the use of narrower bandwidths to conserve and better use the existing frequency spectrum. Additionally, the existing communications systems in use represent incompatibility between state and local entities and restrict collaborative efforts and interagency operability, resulting in the potential for increased confusion and response times during emergencies.

Therefore an increased risk to public safety first responders and the general population of the area may result.

The No Action Alternative serves as the baseline to assess the impacts of the other project alternatives. The No Action Alternative would not address the needs of the North Carolina Highway Patrol or the citizens of North Carolina.

3.2 PROPOSED ACTION

The proposed tower site's elevation and topography provides a natural height advantage, resulting in enhanced coverage with the proposed 480-ft guyed tower (from project grant application). This strategically located site significantly expands the coverage radius for Warren County and parts of surrounding North Carolina counties to provide more reliable interoperable communications for emergency first responders in these areas.

The Warrenton Tower Project will consist of a proposed 480-ft above ground level (AGL) guyed communications tower, surrounded by an irregular shaped 16.5-ft x 28-ft x 15-ft x 15-ft x 27-ft x 37.5-ft security fenced tower compound. The proposed fenced compound will include: one 11'-6" x 19'-0" equipment shelter and a stand-alone 80 kW diesel emergency generator mounted on a 5'-6" x 9'-6" concrete foundation pad (Figure 3).

3.3 ALTERNATIVES CONSIDERED AND DISMISSED

Three alternative action projects were considered by the Criminal Justice Information Network (CJIN) Governing Board to determine what communications means would most efficiently address the needs of a statewide system where both state and local governments' coverage needs would be met.

The first alternative considered was a partnership communications system similar to that used by the state of South Carolina. South Carolina's current system operates on the same system as the VIPER system (Motorola SmartZone 4.1). However, Motorola, Inc. owns and maintains South Carolina's system and associated equipment. Due to the privatization of South Carolina's system and the amount of funding needed to maintain and expand the existing system, Motorola, Inc. required user fees of \$75 per radio. Due to the high user fees, many local government entities do not use the system. Therefore, the CJIN Governing Board dismissed this alternative from further consideration.

The second alternative considered was a commercially based alternative communications system formerly offered by Sprint/Nextel. This system provided users with a commercial handset or radio/phone combination that used a public commercial radio system. The CJIN Governing Board dismissed this alternative from further consideration because it did not provide a viable and efficient statewide communications system.

The third alternative considered was a satellite based communications system. This system proved beneficial over typical trunked style communications systems in that a satellite system is not land based. Therefore, a satellite system is not susceptible to damage or failure due to most dangers on

or near the earth’s surface. Although satellite based systems are beneficial because they are not susceptible to most dangers on or near the earth’s surface, they have many drawbacks, including: lack of operation inside buildings or in densely vegetated areas, lengthy delays associated with long signal travel distances, and routine satellite orbit re-alignments and adjustments. The CJIN Governing Board dismissed this alternative from further consideration because the negatives vastly outweighed the positives.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

Warren County is located in north-central North Carolina, covers about 428 square miles, and the Town of Warrenton is the county seat. Warren County is north of Franklin County, with the Town of Louisburg, and west of Halifax County, with the City of Roanoke Rapids. In 2010, Warren County’s population was 20,972; Warrenton’s population was 833; and Roanoke Rapids in Halifax County had a population of 15,745 (U.S. Census Bureau, 2010).

The Town of Warrenton is near the center of Warren County, and about 10 miles south of the Virginia border. The proposed Warrenton Tower site is located at N 36° 26’ 13.00” Latitude and W 78° 07’ 28.48” Longitude (NAD83) at an elevation of 435.2-ft AMSL (NAVD 88) as shown on the USGS Warrenton/Macon, NC 7.5 Minute Topographic Maps (Figure 2). The project site is also shown on a Google Earth aerial photograph (Figure 4).

The Proposed Action project site is a 10-acre parcel that is mostly covered by early ecological succession forest lands associated with a recently “clear-cut” part of the parent property. The parent property is identified by the Warren County Tax Assessor’s Office as PIN Number F4-51A. The property is reportedly owned by Warren County. The proposed access drive will proceed north, from Beef Tongue Road, along an existing earthen farm road before turning north-northeast and preceding 405 feet through a recently clear-cut, early successional part of the parent property until reaching the proposed tower site. Based on information gathered during an onsite investigation, the project site’s vegetation is mostly early successional vegetation, including Loblolly pine (*Pinus taeda*), Chinese Privet (*Ligustrum sinense*), Highbush blackberry (*Rubus allegheniensis*), and Goldenrod (*Solidago sp.*). According to historical aerial photographs, the project site was cleared of timber before October 2005.

Table 1: Summary of Impacts				
Resource	No Impact	No Significant Impact	Significant Impact	Mitigation/Best Management Practices
Geology		X		None
Prime and unique farmland		X		Farmland Impact Rating Form provided a score of 151 points. Thus no further processing is required.
Air Quality		X		Dust emissions will be controlled by decreasing vehicular traffic speed and wetting exposed soils.

Wild and Scenic Rivers	X			No wild or scenic rivers in Warren County.
Water Quality		X		Best Management Practices (BMPs), among others, silt fences, covering bare soil with wheat straw, and seeding.
Wetlands and Sensitive Vegetation	X			None
Floodplains	X			None
Coastal Resources	X			None
Threatened and Endangered Species		X		None. Correspondence with the USFWS Raleigh Field Office states no terrestrial threatened or endangered species are known to occur within Warren County. However, there are known occurrences of two aquatic species of mussel located within Warren County. The nearest surface water feature the project site drains to is about 1,300 feet west of the property. Therefore no significant impact is anticipated if the proposed BMP's are followed.
Migratory Birds		X		None. Tower lighting in accordance with FAA regulations. Tower will be less than 500 feet (152 meters) AGL and will not be located near any known rookeries, nesting sites, and/or migratory bird flyways.
Wildlife and Fish		X		No significant impact to wildlife is expected due to the minimal disturbance associated with the Proposed Action. Also, the site is not located in or next to an identified wilderness area, wildlife refuge or wildlife preserve. However minimal impacts to individual amphibians and small mammals may occur during construction and grounds maintenance.

General Vegetation		X		All vegetation disturbing activities will be done within the Proposed Action site clearing limits.
Cultural Resources	X			According to correspondence with NC SHPO, the Proposed Action will have no effect on cultural resources. However, in the unlikely event that human remains or cultural or archeological materials and/or artifacts are discovered all work will cease and the appropriate authorities (NCSHPO and FEMA) will be contacted within one working day.
Socioeconomic Resources		X		None
Human Health and Safety		X		None. The Proposed Action will improve interoperable communications in Warren County and parts of the surrounding counties.
Environmental Justice	X			None. The Proposed Action will benefit all communities in Warren County and parts of surrounding counties.
Noise		X		All noise producing activities will be done during normal working hours. (7:00 a.m. to 5:00 p.m. local time)
Infrastructure, Utilities, Transportation, and Waste Management		X		None
Aesthetics and Visual Impacts		X		None

4.1 PHYSICAL RESOURCES

4.1.1 Geology and Soils

Existing Conditions

The Proposed Action site is located on the geologic formation identified as Granitic Rock (PPg), which is described as megacrystic to equigranular and includes the Castalia, Lillington, Medoc Mountain, Sims, Contentnea Creek and Elm Creek intrusives, (Figure 6). Proposed Action site soils

include Appling sandy loam (ApB), Helena sandy loam (HeB), and Wedowee sandy loam (WoB) Series. Wedowee sandy loam soils are located along the first 75 feet of the proposed access easement and are generally described as: 2-6% slopes, well drained soils found along convex interfluves and summits that are formed from saprolite derived from granite, gneiss, or schist. Helena sandy loam soils are along the remaining 525 feet of the proposed access easement and entirely within the proposed fenced tower compound; and are generally described as: 2-6% slopes, moderately well drained soils found on concave ridges and summits that are formed from saprolite derived from granite, gneiss, or schist. Appling sandy loam soils are located within the northern part of the proposed fenced tower compound and the proposed northwestern and eastern guy anchor locations; and are generally described as well drained soils found along convex interfluves and summits that formed from saprolite derived from granite, gneiss, or schist (U.S. Department of Agriculture).

This area of Warren County is in the Northern Outer Piedmont Ecoregion, within the Piedmont Physiographic Province of North Carolina. The northeast-southwest trending Piedmont ecoregion comprises a transitional area between the mostly mountainous ecoregions of the Appalachians to the northwest and the relatively flat coastal plain to the southeast. It is a complex mosaic of Precambrian and Paleozoic metamorphic and igneous rocks with moderately dissected irregular plains and some hills. Once largely cultivated, much of this region is in planted pine or has reverted to successional pine and hardwood woodlands. The soils tend to be finer-textured than in coastal plain regions (Griffith, 2009). Proposed Action ground disturbing activities (e.g., excavation, grading, backfilling, trenching and other activities) would impact geology and soils.

Proposed Action

The Proposed Action will have “no significant impact” on existing geological or soil conditions at the Proposed Action site. However, minimal soil erosion and runoff may occur from Warrenton tower construction ground-disturbing activities, such as vegetation clearing, grading and excavation. Best Management Practices (BMP’s) will be implemented and followed during Warrenton tower construction. BMP’s may include, among others: wetting soil to reduce erosion/and dust, installation of silt and sediment control fencing, and seeding and wheat straw mulching exposed soil. According to the North Carolina Department of Environment and Natural Resources, construction activities that will disturb less than 1 acre are not required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit.

Based on the review from the USDA soil classification for the Proposed Action, the soil types at the project site are defined as prime. The Proposed Action is not located on a unique geologic formation. Consultation with Kristen May, USDA North Carolina Area Research Soil Scientist, was done to determine if mitigation and regulatory requirements would be required. The proposed site received a total land evaluation score of 151 based upon the Farmland Protection Policy Act (FPPA), Farmland Impact Rating form provided to and completed by Ms. Kristen May. The Farmland Impact Rating form uses land evaluation and site assessment criteria, including among more: NRCS land evaluation, farmland relative value, area of non-urban use, percent of site farmed, distance to urban support services, effects of conversion, and compatibility with existing agricultural uses, to formulate a farmland impact score for proposed projects. Sites receiving less than 160 points do not need further consideration for protection due to the lack of potential adverse

impacts on existing land use activities. Due to the proposed area of disturbance less than 1-acre and the Farmland Impact score of 151, it was determined that project construction would not significantly impact geology or prime or unique soils.

4.1.2 Air Quality

Existing Conditions

Air Quality Index is a numeric score from 1 to 100, based on Environmental Protection Agency (EPA) annual reports. Higher Air Quality Index score indicates lower air quality. The number of ozone alert days is used as an indicator of air quality, as are the amounts of seven pollutants including particulates, carbon monoxide, sulfur dioxide, lead and volatile organic chemicals. According to the U.S. EPA, updated March 2012, the Air Quality Index for Warren County, NC is 30. According to the Division of Air Quality, based on 1999 emissions inventories, Warren County has 2,037 tons per year of NO_x and the county has 5,299 tons per year of VOC (anthropogenic only). The large source of NO_x emissions are reportedly from the Elberta Crate and Box Company, which is located about 3 miles south-southwest of the Proposed Action site (Scorecard, 2005).

Proposed Action

The use of construction equipment and activities, during the normal working hours of 7:00 a.m. to 5:00 p.m., are anticipated to cause short-term negligible adverse impacts on air quality at and around the proposed project site. However, due to the limited duration of construction equipment use and activities, it is anticipated that there will not be increases in the criteria air pollutants to above accepted levels, resulting in no significant impact to air quality from the Proposed Action. The Warrenton tower site will use BMPs at, and around, the proposed tower site in order to reduce construction related criteria pollutant emissions.

Additionally, the Proposed Action will require about 0.16 acres or less of construction-related ground disturbance, which is unlikely to exceed the emissions limits for criteria pollutants or Hazardous Air Pollutants (HAP). The Proposed Action would have no significant impact to air quality from construction-related activities.

After the conclusion of the proposed tower and compound construction activities, ambient air quality at the proposed site will likely return to its previous, normal levels. The Proposed Action will not result in the long-term operation of significant emission-generating sources, nor will it significantly alter the existing ambient air quality. The proposed 40 to 80kW emergency Diesel powered generator, located within the proposed tower compound, will be an intermittent source of emissions from the Proposed Action. The duration and frequency of emissions from the generator will be limited due to the nature of the generator, only being used during power outages and routine inspections. Also, Federal regulations limit the use of backup generator use to 500 hours per year. The generators used at communication tower sites by the North Carolina Highway Patrol are between 40kW and 80kW Generac® Industrial Diesel Generators. According to product specification sheets, provided by Generac®, the generators are classified under Tier III of the EPA Emissions Compliance with an EPA Emissions Engine Reference of JDXL03.0113.

Additionally, Brendan Davey of the North Carolina Department of Environment and Natural Resources (NCDENR) stated that emergency use generators are regulated under Title II of the Federal Clean Air Act. However, Mr. Davey's response also indicated that there are no Federal Regulations under the Clean Air Act for emergency use generators that have a rated capacity of less than 590-kW for Diesel fired engines (Appendix F).

The emergency generator use is not expected to cause ambient air quality levels to increase at the proposed tower site, nor any adverse long term impacts on air quality, due to the limited duration and frequency of generator use. Therefore, there would be no significant impact to air quality from operations-related activities.

4.2 WATER RESOURCES

Water resources are inherently site-specific resources. According to the USGS Warrenton & Macon, NC 7.5 Minute Topographic Quadrangle Maps (Figure 2); EPA Region 4 Map of Sole Source Aquifers (<http://www.epa.gov/safewater/sourcewater/pubs/reg4.pdf>); FEMA Flood Insurance Rate Map (FIRM) panel 3720294600J dated 4/16/2007 (Figure 5); USFWS National Wetland Inventory Map (Figure 6), and the www.rivers.gov website, the Proposed Action is located about 435 feet above mean sea level with no indication of wetlands, floodplains, or wild or scenic rivers in these databases or maps. Site reconnaissance done on 8/23/2011 confirmed this information.

The nearest jurisdictional water body, an intermittent and unnamed tributary of Hawtree Creek, is located about 1,300 feet northeast of the proposed tower site. Area annual rainfall is about 41 inches per year.

Since the facility is less than one acre, a NPDES permit is not required. Based upon area topography and distance to the nearest surface water, the Proposed Action or operational actions are unlikely to adversely affect any water body.

4.2.1 Wild and Scenic Rivers

Existing Conditions

TEP personnel completed a review of information available through the www.rivers.gov website which indicates five Designated Wild and Scenic Rivers are located in North Carolina, but none are located within Warren County. However, the National Park Service Rivers, Trails and Conservation Assistance (NPS RTCA) program identified one significant stream within Warren County, North Carolina. According to the NPS RTCA program, Fishing Creek is located within parts of Edgecombe, Halifax, Nash, Franklin and Warren counties and is described as having an essentially primitive shoreline with excellent game fishery.

Construction Related Impacts – According to the USGS Warrenton & Macon, NC 7.5 Minute Topographic Quadrangle Maps and the National Wetlands Inventory Map, the Proposed Action is

located about 4.8 miles northeast of part of Fishing Creek. There will be no impact to Wild or Scenic Rivers due to the Proposed Action construction.

Operations-Related Impacts – According to the USGS Warrenton & Macon, NC 7.5 Minute Topographic Quadrangle Maps and the National Wetlands Inventory Map, the Proposed Action is located about 4.8 miles northeast of part of Fishing Creek. There will be no impact to Wild or Scenic Rivers due to the proposed facility's operation.

4.2.2 Water Quality

Existing Conditions

The nearest water body that the Proposed Action site drains into is located over 1,300 feet to the northeast of the site and is an intermittent, unnamed tributary of Hawtree Creek.

Since the facility is less than one acre, a NPDES permit is not required. Based upon area topography and distance to the nearest surface water, the Proposed Action is unlikely to adversely affect any water body.

Construction Related Impacts – Water quality impacts during the Warrenton tower and compound construction may originate from erosion and runoff from soil disturbance associated with temporary material staging locations, site preparation, access road construction, and by daily site access for short periods during construction. In addition, vehicle and equipment refueling has the potential for spills of petroleum products. All of these activities would be minor and temporary.

Considering the 0.16 acres of disturbance associated with the Warrenton tower site and the distance to the nearest surface water feature, facility construction is unlikely to result in significant erosion. Any minor erosion and runoff from the tower and compound construction will be further reduced or mitigated through the use of BMPs. BMPs for erosion control for projects like this typically include silt fencing and/or straw bales to control erosion, minimizing exposed soil needed for each activity, siting staging areas to minimize erosion, replanting as soon as practicable, mulching, using temporary and/or permanent gravel covers, and limiting the number and speed of vehicles on the site.

Chemical, physical, or biological effects to water resources are not expected to violate water quality standards and criteria. Warrenton tower site construction would not significantly impact water quality.

Operations Related Impacts – Operations related impacts would be limited to erosion before the site is fully revegetated or during emergency generator refueling. Herbicide uses may contaminate nearby waters when applied to the gravel access road or fenced compound to prevent weed growth. However, the potential for water quality impacts from a petroleum spill from emergency generator refueling or from a herbicide spill or application are minimal due to the limited occurrences annually and the small quantity that would be needed onsite.

BMPs during the project construction stage would continue until the site is fully revegetated. If required, a Spill Plan will be developed and followed to guide the required response in case of spills. However, under the authority of Section 311 (j)(1)(C) of the Federal Water Pollution Act (Clean Water Act) in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112), a facility is not regulated under the SPCC Spill Prevention Plan if the aggregate aboveground storage tank capacity is under 1,320 gallons. Chemical, physical, or biological effects to water resources are not expected to violate water quality standards and criteria. There would be no significant impact to water quality from operations activities.

4.2.3 Wetlands and Sensitive Vegetation Delineation

Existing Conditions

According to site inspection, the USGS Warrenton & Macon, NC 7.5 Minute Topographic Quadrangle Maps (Figure 2) and National Wetlands Inventory Map (Figure 6), the Proposed Action is not located within a wetland and no sensitive vegetation is located within or near the Proposed Action's area of disturbance.

Construction and Operations Related Impacts – Since no wetland habitat or known sensitive vegetation was found at the Proposed Action project site or surrounding area, construction or operations related impacts would be expected to have no impact on wetland habitats or sensitive vegetation.

4.2.4 Floodplain Information

Existing Conditions

According to the FEMA Flood Insurance Rate Map (FIRM) Panel #3720294600J, dated 4/16/2007 the Proposed Action site is not located in a floodplain. Figure 5 depicts the pertinent FEMA FIRM Panel of the Proposed Action location.

Construction and Operations Related Impacts – The Proposed Action is not located within or near a floodplain. Therefore, construction or operations related impacts would not impact floodplains.

4.3 BIOLOGICAL RESOURCES

4.3.1 Threatened and Endangered Species

Existing Conditions

The U.S. Fish and Wildlife Service (USFWS) have identified two endangered species in Warren County, NC. The Dwarf Wedgemussel (*Alasmodonta heterodon*) is a freshwater mussel found in Shocco Creek in Warren County. Shocco Creek is located about 11 miles to the south of the proposed tower site and within the Tar River Basin. The Tar River Spinymussel (*Elliptio steinstansana*) is a freshwater bivalve found in three tributaries and parts of the Tar River main

stem. Habitats for these species were compared to the habitat found at the proposed site. None of the habitats were identified at the site. Both of the aforementioned species are located within the Tar River watershed and the proposed tower site is located within the Roanoke River watershed.

Construction and Operations Related Impacts – The Proposed Action is not located within the same watershed as the two endangered aquatic mussel species mentioned above. In addition, the Proposed Action site will not impact any aquatic habitat. Thus, construction and/or maintenance of the proposed tower and fenced compound should not adversely effect the listed or proposed protected species or their designated critical habitats. Coordination of this analysis with the USFWS Raleigh, NC Field Office resulted in their concurrence with the determination that the proposed action is “not likely to adversely affect” any federally listed species (USFWS, 11/23/2011, in Appendix B).

4.3.2 Migratory Birds

Existing Conditions

No burrows, nests, rookeries, or other signs of migratory bird species and/or critical habitat were readily apparent during TEP’s research in preparation for, and onsite inspection of the proposed project site and surrounding project area on 8/23/2011. Also, according to the North American Migration Flyways Map (<http://www.birdnature.com/allflyways.html>), no known migratory bird flyway is located within Warren County, North Carolina. However, some migratory birds may be outside of known migratory flyways. Therefore, migratory birds may be in or near the Proposed Action site at times.

Construction Related Impacts – Warrenton tower site construction-related activities would have short and long term minor impacts on migratory birds. Impacts to migratory birds could occur during erection of towers, antennas, ventilation, and air conditioning (HVAC) equipment installed using portable cranes. Construction-related activities along migratory bird pathways would have more potential to adversely impact migratory birds than activities in non-migratory areas.

Construction-related impacts would have no significant impact on migratory birds as use of equipment such as cranes to erect towers, and installing HVAC equipment and antennas would be done during limited periods and are short-term impacts.

Operations Related Impacts – Warrenton tower site construction-related activities would have minor long-term impacts on migratory birds. Impacts on migratory birds may occur as a result of collision with the towers, antennas, guy wires and other tall structures, particularly during periods of low visibility and as a result of tower lightning that may distract or attract some species. The probability of collision is difficult to determine programmatically because of the wide range of variables that affect the potential for collision and the lack of conclusive data on the causes of collision. However, a study conducted by Joelle Gehring, Central Michigan University-Biology Department, Avian Collision Study Plan for the Michigan Public Safety Communications System (MPSCS), concluded “Though there are fewer tall towers than towers in the 116 to 146 m AGL height range, towers >305 m (1000.7 feet) AGL are responsible for several times the number of fatalities than shorter towers.”

Adverse impacts on birds resulting from collisions generally during foggy or low cloud conditions at lighted towers supported by guy wires, and present greater collision risk than freestanding towers or buildings. The Warrenton tower is a proposed guyed tower about 480 feet (146.3 m) high. Variables such as structure height above surrounding trees, design, lighting, seasons, adjacent land features, and migratory patterns, would affect the potential and degree of adverse impacts on migratory birds.

4.3.3 Wildlife and Fish

Existing Conditions

Based on information available through Wilderness.net and the U.S. Wilderness Areas Map, North Carolina has 12 “wilderness areas.” According to the U.S. Wilderness Areas Map, the Proposed Action site is not located in or next to any wilderness area. Also, according to correspondence with the USFWS (11/23/2011), the site is not located in or next to an USFWS managed wildlife refuge area. The Proposed Action site is currently covered by an approximately 7-year old mix of Loblolly Pine (*Pinus taeda*) and Sweetgum (*Liquidambar styraciflua*) that may be inhabited by small mammals, amphibians, insects, and other fauna species typical in north central North Carolina.

Construction Related Impacts – Warrenton tower site construction would include clearing the construction area’s existing vegetation using heavy mechanized equipment that could temporarily impact individual small mammals and amphibians in the area. However, based on the limited area of disturbance associated with the proposed construction activities, any impacts to wildlife would be temporary and limited to individuals. Proposed tower facility construction would not significantly impact wildlife species’ overall populations.

Operations Related Impacts – Proposed Action routine operations and maintenance would include mowing vegetation around the fenced compound and along the access drive edges. Mowing in these areas would maintain the plants vegetation in early ecological successional stages of community development and may prevent reestablishment of some plant species. Similarly, operations practices at the Warrenton tower site may lead to habitat degradation and occasional mortality of some wildlife species (e.g., amphibians and small mammals) individuals.

After completion of site development, potentially adverse impacts on wildlife species sensitive to disturbance could result from temporary noise generated by climate control such as heating and air condition equipment or the emergency generator at the project site. This recurring, temporary low level disturbance might exclude some wildlife species, or promote colonization by disturbance tolerant wildlife species.

Operations-related activities would not significantly impact wildlife or wildlife habitat.

4.3.4 Vegetation

Existing Conditions

The Proposed Action site is located in a previously disturbed area associated with forestry practices and is now covered by an approximately 7-year old mix of Loblolly Pine (*Pinus taeda*) and Sweetgum (*Liquidambar styraciflua*).

Construction and Operations Related Impacts – Mechanized clearing of vegetation in the proposed construction site would be done before the tower facility construction. The mechanized clearing of vegetation would about 0.16 acres and would have no significant impact on vegetation in the rest of the approximate 10-acre parent property.

Tower facility routine operations and maintenance would include mowing vegetation around the fenced compound and possibly along the access drive edges. Operations-related activities would not significantly impact area vegetation.

4.4 CULTURAL RESOURCES

4.4.1 ACHP Program Comment

FEMA is required under Section 106 of the National Historic Preservation Act (NHPA) to consider the impacts that any FEMA-funded projects may have on historic properties. The Federal Communications Commission (FCC) is also required under the NHPA to consider impacts that proposed communications tower facilities, operating with a FCC license, may have on historic properties. On October 23, 2009 the Advisory Council on Historic Preservation (ACHP) issued a Program Comment (PC) for “Streamlining the Section 106 Review for Wireless Communications Facilities Construction and Modification Subject to Review Under the FCC National Programmatic Agreement (NPA) and/or the NPA for Collocation of Wireless Antennas.” According to the ACHP PC, FEMA is not required to conduct and complete its own Section 106 review process (no duplication of efforts). Therefore, the Section 106 review conducted as part of the FCC NEPA review is described in this EA and no additional Section 106 review was conducted or required for FEMA.

4.4.2 FCC Nationwide Programmatic Agreement

In March 2005, the FCC implemented a Nationwide Programmatic Agreement (NPA) that established rules for Section 106 consultation with the State Historic Preservation Officers (SHPOs), Tribes (Tribal Historic Preservation Officers (THPOs) or other appropriate tribal official for tribes without a THPO) and Native Hawaiian Organizations (NHOs) that have been historically located in and/or have indicated interest in proposed communications facility sites; and public and local government involvement. To assist with the Section 106 review process, the FCC developed and instituted the Tower Construction Notification System (TCNS) and the Form(s) 620/621. The

Form 620 is for submitting site specific information and records of Tribal and Local government consultations with the SHPO for proposed communications tower facilities. The FCC Form 621 is also associated with submitting site specific information and records of Tribe and Local government consultations with the SHPO for proposed collocations of antennas on existing communications towers or non-tower structures such as buildings, elevated water tanks, and electric transmission towers.

Under the FCC NPA all Tribes and NHOs who have indicated interest in the area are required to respond within 30 days of receiving notification. If a response is not received within that timeframe, then a second “follow-up” notification is done to obtain response. When no response is received after the “follow-up” notification, then the FCC must be notified and interagency consultations are done with the non-responsive Tribe or NHO.

4.4.3 FCC Tower Construction Notification System

The FCC developed and implemented the TCNS system to assist with notification of a proposed communications facility to SHPOs, Tribes and NHOs. TCNS is available through the Internet at <https://wireless2.fcc.gov/ulsclogin/index.htm> and requires an identification number or FRN. Using TCNS, entities can input site specific information on a proposed communications facility, which includes: location, structure type, and structure height with and without appurtenances. Information inserted into TCNS is then made available to the applicable SHPOs, Tribes, and NHOs that have expressed interest in a specified geographic area.

TEP used the FCC TCNS system to notify Tribes, NHOs and the North Carolina State Historic Preservation Office (SHPO) of the Proposed Action on 10/21/2011 and was assigned TCNS# 80486 for the proposed Warrenton tower site. The TCNS system notified five Tribes that expressed interest in Warren County, North Carolina. The five (5) Tribes notified by the TCNS system were the Tuscarora Nation, Cherokee Nation, Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, and Catawba Indian Nation. TEP used the provided TCNS tribe list to contact these Tribes a second time, on 11/4/2011, to obtain additional information on the Proposed Action. All appropriate Tribes concurred with the Proposed Action (Appendix E).

4.4.4 State Historic Preservation Officer

TEP visited the NC State Historic Preservation Office (NC SHPO) and the NC Office of State Archeology to view the applicable USGS 7.5-minute topographic quadrangle maps (Warrenton & Macon) to assess potential significant impacts on architectural, historic, or archeological sites near the Proposed Action. In addition, TEP contracted Archaeological Consultants of the Carolinas, Inc., a cultural resources consulting firm, to perform an archaeological evaluation of the Proposed Action’s area of disturbance. This archaeological evaluation was done to assess the Proposed Action’s potential direct effects on archaeological resources. The archaeological evaluation concluded that no archaeological resources eligible for inclusion in the National Register of Historic Places (NRHP) would be affected by the Proposed Warrenton tower undertaking (action). However, the evaluation did identify one historic house site as 31WR247** that was located on the parent property. Site 31WR247** is described as a late 19th to early 20th century house site with

the only remaining structural improvement being the chimney structure. The existing chimney structure is located about 15 feet east of the northern most guy anchor location.

Archaeological Consultants of the Carolinas, Inc. also conducted 11 shovel tests within the project area and near the historic home site. Two of the 11 shovel tests conducted yielded artifacts which included: 1 shard of clear lamp glass, 6 shards of clear flat glass, 6 shards of brown bottle glass, 1 shard of clear bottle glass, 1 shard of melted glass, 1 complete insert of milkglass canning, 3 fragments of clear glass candy jar lid, 2 wire nails, 1 possibly square nail, 1 unidentified nail, 2 fragments of metal bottle cap, 7 unidentified iron metal fragments, and 1 undecorated whiteware. No additional structural remains were present at the site and the site had been subjected to logging and modern household debris dumping. Due to disturbance and current condition of the site, Archaeological Consultants of the Carolinas, Inc., determined that 31WR247** is not eligible for the NRHP. In addition, the evaluation concluded that no additional archaeological investigation is recommended for this project. Further, TEP received concurrence from Ms. Renee Gledhill-Earley of NC Dept. of Cultural Resources-Environmental Review Coordinator and Ms. Susan G. Myers of NC Dept. of Cultural Resources: Office of State Archaeology-Project Registrar, regarding the proposed project on 11/7/2011 for FCC requirements that included a 1.5 mile visual Area of Potential Effects (APE) (Appendix C).

4.4.5 Indian Tribal Consultation

TEP sent follow-up notification letters on 11/4/2011 to each Tribe (if needed) identified by the TCNS system. Sections 4.4.5.1 through 4.4.5.5 summarize the consultations.

4.4.5.1 Tuscarora Nation

TEP provided no follow-up notification to the Tuscarora Nation as the TCNS states “If the Applicant/tower builder receives no response from the Tuscarora Nation within 30 days after notification through TCNS, the Tuscarora Nation has no interest in the participating in the pre-construction review for the site. The Applicant/tower builder, however, must IMMEDIATELY notify the Tuscarora Nation in the event archaeological properties or human remains are discovered during construction. On 10/28/2011, the TCNS system notified all Tribes that indicated interest in Warren County, NC. The 30-day comment period ended on 11/28/2011. No response has been received by TEP personnel before issuance of this Draft EA and no additional consultation was required.

4.4.5.2 Cherokee Nation

TEP provided a follow-up notification letter to Dr. Richard Allen of the Cherokee Nation on 11/4/2011 by email. No response was received from the Cherokee Nation within the 30-day comment period and TEP referred the Cherokee Nation using the TCNS system on 12/6/2011 (Appendix B). TEP received concurrence from the Cherokee Nation by email on 12/21/2011 that stated, “The Cherokee Nation has no knowledge of any historic, cultural or sacred sites within the affected area. Should any ground disturbance reveal an archeological site of human remains, we ask that the all activity cease immediately and the Cherokee Nation and other appropriate agencies be contacted immediately.” (Appendix B).

4.4.5.3 Eastern Shawnee Tribe of Oklahoma

TEP provided no follow-up notification to the Eastern Shawnee Tribe of Oklahoma as the TCNS system states “If you, the Applicant/tower constructor, do not receive a response from us, the Eastern Shawnee Tribe of Oklahoma, within 30 days from the date of the TCNS notification, then you may conclude that we do not have an interest in the site. However, if archeological resources or remains are found during construction, you must immediately stop construction and notify us of your findings in accordance with the FCC’s rules. (See 47 C.F.R. § 1.1312(d))” On 10/28/2011, the TCNS system notified all Tribes that indicated interest in Warren County. The 30-day comment period ended on 11/28/2011. No response has been received by TEP personnel before the issuance of this Draft EA and no additional consultation was required.

4.4.5.4 Shawnee Tribe

TEP provided follow-up notification to Ms. Kim Jumper of the Shawnee Tribe on 11/4/2011, by standard U.S. mail. TEP received concurrence from the Shawnee Tribe on 11/23/2011, that stated; “The Shawnee Tribe’s Tribal Historic Preservation Officer concurs that no known historic properties will be negatively impacted by construction of this tower site (see memo line above for TCNS number/s). The Shawnee Tribe’s archives do not reveal any issues of concern at this tower location. In the event that archaeological materials are encountered later during construction, use, or maintenance of this tower location, please re-notify us at that time as we would like to resume consultation under such a circumstance.” (Appendix B).

4.4.5.5 Catawba Indian Nation

TEP provided a follow-up notification to Ms. Wenonah Haire of the Catawba Indian Nation Tribal Historic Preservation Office on 11/4/2011, by standard U.S. mail. TEP received concurrence from the Catawba Indian Nation on 11/29/2011 that stated, “The Catawba have no immediate concerns with regard to traditional cultural properties, scared sites, or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project.**” (Appendix B).

4.4.6 Inadvertent Discovery

In the unlikely event that construction activities result in the inadvertent discovery of human remains, cultural or archeological materials, then all ground-disturbing activities will cease operation immediately and all appropriate agencies, such as FEMA, NC SHPO, and Tribes with an expressed interest in Warren County, NC will be contacted.

4.5 SOCIOECONOMIC RESOURCES

4.5.1 Environmental Justice

The Proposed Action will have no disproportionate adverse impact on low-income or minority populations. The Proposed Action is anticipated to have a positive impact on all segments of the population of Warren County, NC by improving emergency services communications.

4.5.2 Noise

Existing Conditions

The project site shows traffic patterns typical in rural residential and agricultural areas. In addition, the parent property is covered by early succession trees associated with a recent timber harvest. The Proposed Action site is located in a rural portion of Warren County that has mostly undeveloped forest, agricultural, and low density residential land uses. The ambient noise levels associated with rural residential areas are anticipated to reach up to between 35 and 45 dBA (FERC 2002, EPA 1978).

Proposed Action

Construction Related Impacts – Tower and tower compound construction will temporarily increase in local noise. The amount and type of noise disturbance will vary depending on the type of machinery used, distance from the construction site and noise source, construction schedule and duration, and site specific and area specific conditions. Heavy machinery use may result in temporary, minor adverse impacts on nearby low-density residences. The nearest residence from the proposed tower site and noise source is about 3,700 feet to the west. This residence is separated from the proposed tower site by about 200 feet of dense early woody successional vegetation and Beef Tongue Road. This residence is located about 50 feet north of US Highway 158. Construction-related noise will typically occur during normal working hours (7:00 a.m. to 5:00 p.m.), when this noise will be better masked by ambient noise levels of the surrounding project area, caused by proximity to US Highway 158 and Beef Tongue Road. Noise levels before and after construction will likely drop to the ambient noise levels of the project area.

It is projected that noise levels from construction activities will be temporary (no more than a 6-8 hours during weekdays and for a total of about five weeks). Noise levels at 50 feet or more from the proposed construction site should be under 85 dBA. These noise levels will be partly masked by trees and other vegetation around the Proposed Action site. The ambient noise levels caused by traffic from US Highway 158 and Beef Tongue Road should also partly mask the proposed construction's noise levels. Construction-related noise levels from the Warrenton tower and compound construction will not be significant.

Operations Related Impacts – The project area's ambient noise levels will return to normal after the proposed construction is finished. Temporary operations-related noise increases will be caused by the tower facility's two air conditioning (A/C) and heating units and emergency generator. The A/C units regulate the equipment shelter's internal temperature and the diesel fueled emergency

generator provides electric power to the facility, as needed, in emergency situations when the normal supply of electrical power has been interrupted.

The proposed Warrenton tower facility will include the use of a 40 to 80 kW diesel fueled emergency generator. The 40 to 80 kW generators produces noise levels of about 80 dBA measured at 23 feet from the source. This emergency generator is not anticipated to increase ambient noise levels on-site due to the nature of the generator use, being only used intermittently during power outages and routine equipment maintenance and testing. The EPA does not have regulatory authority for noise in local communities. Also, federal regulations limit the use of emergency generators to 500 hours per year. Thus, the emergency generator will neither cause long-term adverse impacts on ambient noise levels, nor cause ambient noise levels of the Proposed Action to measurably increase. The Proposed Action would not cause any significant long-term noise impacts.

4.5.3 Traffic

Potential impacts on transportation are expected to be minimal, provided appropriate planning and implementation actions are taken. Traffic would occasionally, moderately increase around the project site during project construction. Existing roads would be used as much as possible and applicable traffic best practices would be used. During operations, only a few daily trips by personnel or medium-duty vehicles will be needed. Proposed Action construction and operations traffic would not significantly impact local traffic or transportation networks.

4.5.4 Public Service and Utilities

Existing Conditions

The Proposed Action area has a combination of utilities (electricity and communications) along Beef Tongue Road and US Highway 158. The existing utilities located Beef Tongue Road will be used to provide electrical and telephone services for the Proposed Action.

Construction and Operations Related Impacts – Construction and operations related impacts are not expected to lead to major shortages in supply, or require major system changes. Impacts on utilities would not be significant.

4.5.5 Public Health and Safety

The Proposed Action would require construction activities within a recently clear-cut, early successional wooded part of an approximately 10 acre parcel. Based on the specified elevation of the proposed antennas (>10 meters AGL) and because the site will be located within a restricted area, radio frequency emissions are not expected to threaten human health or safety.

Construction and Operations Related Impacts – Work areas surrounding construction activities would be fenced, and appropriate signs would be posted to further minimize safety risks. Also, implementation of worker safety rules, per OSHA safety and health standards, will establish a

uniform set of safety practices and procedures to protect workers. Construction related impacts to human health and safety would not be significant.

The Warrenton tower facility will be fenced, and access would be restricted to authorized personnel to minimize risks to human health and safety. Under the authority of Section 311 (j)(1)(C) of the Federal Water Pollution Act (Clean Water Act) in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112), a facility is not regulated under the SPCC Spill Prevention Plan if the total aboveground storage tank capacity is under 1,320 gallons. Based on the specified elevation of the proposed antennas (>10 meters AGL) and because the site will be located within a restricted area, radio frequency emissions are not expected to threaten human health and safety. There would be no significant adverse impacts to human health and safety resulting from Proposed Action operations.

Implementation of the Proposed Action would enable public safety authorities to improve interoperable communications and communicate more effectively in an emergency or crisis situation for Warren County and parts of surrounding counties. The Proposed Action operations would have a substantial positive impact on human health and safety.

4.6 CUMULATIVE IMPACTS

Cumulative impacts are an individual action's environmental impacts when combined with the environmental impacts of other actions in the past, present, and foreseeable future (about 20 years). Cumulative impacts result from individually less than significant impacts, but collectively significant impacts that occur over time and apply to a given resource type or area of concern.

Existing Conditions

Currently, the North Carolina Highway Patrol has constructed 63 of the proposed 119 new tower sites associated with complete VIPER Network. According to information available from the FCC Antenna Structure Registration (ASR) System, there are currently 4,550 registered towers in North Carolina, including the 63 "active" VIPER network towers. After VIPER network system completion, with construction of the last 56 new towers, the number of registered communications towers, if no other providers construct new tower sites and no towers are damaged or destroyed, will be 4,606. The proposed 119 VIPER network towers, including the 56 towers remaining to be constructed will result in an increase of approximately 2.58% in the number of communications towers in the state of North Carolina. The Proposed Action's purpose is to meet the North Carolina Highway Patrol's current radio frequency coverage needs in Warren County and parts of surrounding counties; and the need is to better protect the lives, property, environmental quality, and quality of life for over 21,000 people.

Construction-Related Impacts – Construction related cumulative impacts should be minimal as no significant impacts are expected on any resource area within the parameters described in Section 4 of this Draft EA. In the event of any construction related impacts, these impacts are expected to be minor and temporary.

Operations-Related Impacts – Operations related cumulative impacts are anticipated to be minor as no significant impacts are expected on any resource area within the parameters described in Section 4 of this Draft EA, during the normal and routine operations.

5.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT AND PERMITS

TEP contacted the Warren County Manager, Warren County Economic Development Department, and the Warren County Historical Association regarding the Proposed Action by USPS mail on 11/4/2011, inviting them to be a consulting party regarding any potential impact to historical or archaeological resources in the area. No response has been received as of the issuance of this Draft EA. TEP also published Public Notice in the “Warren Record” newspaper on 10/26/2011 and 3/12/2012 regarding any impacts the Proposed Action may have on historic resources within the APE. No responses to the Public Notices or letters requesting comments have been received by TEP as of the issuance of this Draft EA.

6.0 CONCLUSIONS

The Proposed Action would require construction of a new radio transmitting and receiving tower involving a guyed tower over 200 feet AGL, thus requiring a site specific FEMA HSGP NEPA-EA. The Proposed Action will not involve any unusual risks or impacts to sensitive areas identified in Section 4 that would require a site-specific EA. Under the No Action Alternative, no interoperable communications capability would occur. Existing gaps in public safety interoperable communications would persist, resulting in an adverse impact to human health and safety.

In accordance with 47 CFR Section 1.1307 (a)(1) through (8), an evaluation has been made to determine whether any of the listed FCC special interest items would be significantly affected if a tower structure and/or antenna and associated equipment control cabinets were constructed at the proposed site location. No FCC special interest items were identified that would require an FCC NEPA EA to be prepared (Appendix E).

If there are no significant, validated negative Public Comments about this Proposed Action’s impacts, as described in this Draft EA, by the end of this Draft EA’s Public Comment Period, then this Draft EA will become the Final Environmental Assessment and FEMA Region IV will issue a “Finding of No Significant Impact” (FONSI) for this Proposed Action.

7.0 LIST OF PREPARERS

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