

*Draft Environmental Assessment*

**North Carolina Highway Patrol VIPER  
Communications Tower – Hazel Top Mountain (HP-1122)**

*Waynesville, Haywood County, North Carolina*

North Carolina Department of Public Safety/North Carolina Emergency  
Management

FEMA 2011-SS-00119

October 2013



**FEMA**

**U.S. Department of Homeland Security  
Federal Emergency Management Agency - Region IV  
3003 Chamblee Tucker Rd - Hollins Bldg  
Atlanta, GA 30341-4112**

Document Prepared for DHS-FEMA

Prepared by:  
Tower Engineering Professionals, Inc.  
3703 Junction Boulevard, Raleigh, North Carolina

Phone: (919) 661-6351 Fax: (919) 661-6350  
*Project No.: 100502.05-E*

# Table of Contents

<b>LIST OF ACRONYMS</b> .....	<b>iii</b>
<b>1.0 INTRODUCTION</b> .....	<b>1</b>
<b>2.0 PURPOSE AND NEED</b> .....	<b>1</b>
<b>3.0 ALTERNATIVES CONSIDERED</b> .....	<b>1</b>
<b>3.1 NO ACTION</b> .....	<b>1</b>
<b>3.2 PROPOSED ACTION</b> .....	<b>2</b>
<b>3.3 OTHER ALTERNATIVES CONSIDERED AND DISMISSED</b> .....	<b>2</b>
<b>4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS</b> .....	<b>3</b>
<b>4.1 EARTH RESOURCES</b> .....	<b>6</b>
4.1.1 <i>Geology and Soils</i> .....	6
4.1.2 <i>Air Quality</i> .....	7
<b>4.2 WATER RESOURCES</b> .....	<b>7</b>
4.2.1 <i>Wild and Scenic Rivers</i> .....	8
4.2.2 <i>Water Quality</i> .....	9
4.2.3 <i>Wetlands</i> .....	10
4.2.4 <i>Floodplain Information</i> .....	10
<b>4.3 BIOLOGICAL RESOURCES</b> .....	<b>11</b>
4.3.1 <i>Threatened and Endangered Species</i> .....	11
4.3.2 <i>Migratory Birds</i> .....	12
4.3.3 <i>Wildlife and Fish</i> .....	13
4.3.4 <i>Vegetation</i> .....	13
<b>4.4 CULTURAL RESOURCES</b> .....	<b>14</b>
4.4.1 <i>ACHP Program Comment</i> .....	13
4.4.2 <i>FCC Nationwide Programmatic Agreement</i> .....	14
4.4.3 <i>FCC Tower Construction Notification System</i> .....	14
4.4.4 <i>State Historic Preservation Officer</i> .....	16
4.4.5 <i>Indian Tribal Consultation</i> .....	16
4.4.6 <i>Inadvertent Discovery</i> .....	17
<b>4.5 SOCIOECONOMIC RESOURCES</b> .....	<b>18</b>
4.5.1 <i>Environmental Justice</i> .....	18
4.5.2 <i>Noise</i> .....	18
4.5.3 <i>Traffic</i> .....	19
4.5.4 <i>Public Service and Utilities</i> .....	20
4.5.5 <i>Public Health and Safety</i> .....	20
<b>4.6 CUMULATIVE IMPACTS</b> .....	<b>21</b>
<b>5.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT AND PERMITS</b> .....	<b>21</b>
<b>6.0 CONCLUSIONS</b> .....	<b>22</b>
<b>7.0 LIST OF PREPARERS</b> .....	<b>22</b>
<b>8.0 REFERENCES</b> .....	<b>23</b>

## FIGURES

- Figure 1: Site Vicinity Map
- Figure 2: Topographic Map
- Figure 3: Site Plan
- Figure 4: Aerial Photograph
- Figure 5: FEMA Flood Insurance Rate Map

**Figure 6: National Wetlands Inventory Map**  
**Figure 7: Geologic Map**  
**Figure 8: Soils Map**

**APPENDIX A – Site Photographs**

**APPENDIX B – FCC NEPA Land Use Compliance Checklist**

**APPENDIX C – NC DENR Air Pollution Response**

**APPENDIX D – Unique and Prime Farmland Impact Rating Form**

**APPENDIX E – Preparer’s Resume**

## Acronym List

ACHP -	Advisory Council of Historic Preservation
AGL -	Above Ground Level
APE -	Area of Potential Effects
A/C -	Air Conditioning
BMP -	Best Management Practices
CFR -	Code of Federal Regulations
CJIN -	Criminal Justice Information Network
dBA -	Decibels (Acoustic)
DHS -	Department of Homeland Security
EA -	Environmental Assessment
EPA -	Environmental Protection Agency
FAA -	Federal Aviation Administration
FCC -	Federal Communications Commission
FEMA -	Federal Emergency Management Agency
FERC -	Federal Energy Regulatory Commission
FIRM -	Flood Insurance Rate Map
FONSI -	Findings of No Significant Impact
FPPA -	Farmland Protection Policy Act
HAP -	Hazardous Air Pollutants
HP -	Highway Patrol
HSGP -	Homeland Security Grant Program
HVAC -	Heating, Ventilation, and Air Conditioning
kW -	Kilowatt
MPSCS -	Michigan Public Safety Communications System

NAD 83 -	North American Datum (1983)
NAVD 88 -	North American Vertical Datum (1988)
NEPA -	National Environmental Policy Act
NC -	North Carolina
NCDENR -	North Carolina Department of Environment and Natural Resources
NC SHPO -	North Carolina State Historic Preservation Office
NHO -	Native Hawaiian Organizations
NHPA -	National Historic Preservation Act
NO <sub>x</sub> -	Nitrogen Oxide
NPA -	Nationwide Programmatic Agreement
NPDES -	National Pollutant Discharge Elimination System
NPS RTCA -	National Park Service Rivers, Trails and Conservation Assistance
NRHP -	National Register of Historic Places
OSHA -	Occupational Safety and Health Administration
PC -	Public Comment
PIN -	Parcel Identification Number
SPCC -	Spill Prevention, Control, and Countermeasure Plan
TCNS -	Tower Construction Notification System
TEP -	Tower Engineering Professionals, Inc.
THPO -	Tribal Historic Preservation Office
USDA -	United States Department of Agriculture
USFWS -	United States Fish and Wildlife Service
USGS -	United States Geological Survey
USPS -	United State Postal Service
VIPER -	Voice Interoperability Plan for Emergency Responders
VOC -	Volatile Organic Compound

## **1.0 INTRODUCTION**

This Draft Environmental Assessment (EA) reviews expected environmental impacts associated with the proposed construction and operation of the Hazel Top Mountain 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).

FEMA and others prepared this Draft EA in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA, 40 Code of Federal Regulations (CFR) Parts 1500-1508, and FEMA's NEPA implementing regulations 44 CFR Part 10. FEMA will use this EA's findings and related Public Comments to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) for the proposed project.

## **2.0 PURPOSE AND NEED**

The purpose of the Proposed Action is for Haywood County, North Carolina to meet current radio frequency coverage needs of the North Carolina Highway Patrol in Haywood County and parts of adjacent counties while promoting interoperability of federal, state, and local government public safety and first responders. According to the Voice Interoperability Plan for Emergency Responders Legislative Report, dated December 2004; when completed the VIPER communications network would provide federal, state, and local government entities the following benefits, which are currently unattainable using existing communications technologies:

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

## **3.0 ALTERNATIVES CONSIDERED**

### **3.1 NO ACTION**

Under No Action, The North Carolina Highway Patrol's 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 would continue.

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 Haywood County, North Carolina Highway Patrol, or the citizens of Haywood County.

### **3.2 PROPOSED ACTION**

The North Carolina Highway Patrol's proposed Hazel Top Mountain Tower Project would consist of a 170 feet above ground level (AGL) self-supporting communications tower, surrounded by an irregular shaped 24-ft x 12-ft x 28-ft x 39-ft x 10-ft x 65-ft security fenced tower compound. The fenced compound would include: one 11'-6" x 14' equipment shelter and a stand-alone 80 kW diesel emergency generator mounted on a 5'-6" x 9'-6" concrete pad foundation (Figure 3).

The proposed tower site's elevation and topography provides a natural height advantage, resulting in enhanced coverage with the proposed 170-foot tall. This strategically located site significantly expands the coverage radius for Haywood County and parts of surrounding North Carolina counties to provide more reliable interoperable communications for public safety officials and first responders in these areas.

### **3.3 ALTERNATIVES CONSIDERED AND DISMISSED**

The Criminal Justice Information Network (CJIN) Governing Board considered three project Alternative Actions 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**

Haywood County is in western North Carolina, covers about 553 square miles, and the Town of Waynesville is the county seat. Haywood County is north of Jackson County, with the Town of Sylva, and west of Buncombe County, with the City of Asheville. In 2010, Haywood County’s population was 59,036; Waynesville’s population was 9,869 (U.S. Census Bureau, 2010).

The Town of Waynesville is near the center of Haywood County, and about 25 miles southwest of the City of Asheville. The proposed Hazel Top Mountain Tower site is located at N 35° 37’ 59.562” Latitude and W 83° 02’ 4.093” Longitude (NAD83) at an elevation of 4,395.9 feet AMSL (NAVD 88) as shown on the USGS Cove Creek Gap, NC 7.5 Minute Topographic Map (Figure 2). The project site is also shown on an aerial photograph (Figure 4).

The North Carolina Highway Patrol’s Proposed Action site is a 41-acre parcel mostly covered by mature deciduous hardwood forested land and an existing communications tower facility. The parent property is identified by the Haywood County Tax Assessor’s Office as PIN Number 8700-19-3131. The property is reportedly owned by Catherine Ramsey Setser and Ronnie Ramsey.

The proposed fenced tower compound would be accessed by an existing 12-foot wide gravel drive, within an existing NCDOT right-of-way associated with Climbing Bear Ridge, which proceeds south from part of Teaberry Ridge Road for about 940 feet before reaching the proposed fenced tower compound site. Based on information gathered during an onsite investigation, the project site’s canopy layer vegetation consists of Red Maple (*Acer rubrum*), White Oak (*Quercus alba*), and Black Oak (*Quercus velutina*). Understory (groundcover) vegetation consists of, among others: Rhododendron and American Chestnut (*Castanea dentata*) seedlings.

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		According to Mr. Kent Clary, USDA NRCS North Carolina Area 1 Soil Scientist, no prime, unique,

				statewide, or local significant farmlands are present at the Proposed Action Site. Thus no further processing is required.
Air Quality		X		Dust emissions would be controlled by decreasing vehicular traffic speed and wetting exposed soils.
Wild and Scenic Rivers	X			No wild or scenic rivers in Haywood County.
Water Quality		X		Best Management Practices (BMPs), among others, silt fences, covering bare soil with wheat straw, and seeding.
Wetlands	X			None
Floodplains	X			None
Coastal Resources	X			None
Threatened and Endangered Species		X		None. Correspondence with the USFWS Asheville Field Office states nine threatened or endangered species, the Carolina Northern Flying Squirrel ( <i>Glaucomys sabrinus coloratus</i> ), Bog Turtle ( <i>Haliaeetus leucocephalus</i> ), Gray Bat ( <i>Myotis grisescens</i> ), Indiana Bat ( <i>Myotis sodalist</i> ), Appalachian elktoe ( <i>Alasmidonta raveneliana</i> ), Spruce-fir moss spider ( <i>Microhexura montivaga</i> ), Small Whorled Pogonia ( <i>Isotria medeoloides</i> ), Spreading avens ( <i>Geum radiatum</i> ) and Rock Gnome Lichen ( <i>Gymnoderma lineare</i> ), are known to occur within Haywood County. However, based on USFWS concurrence dated November 14, 2012, the Proposed Action “will not affect any federally listed endangered or threatened species.”
Migratory Birds		X		None. No lighting is anticipated. Tower would be less than 200 feet (45.72 meters) AGL and would not be located near any known

				rookeries, nesting sites, and/or migratory bird flyways.
Fish and Wildlife		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 minor impacts to individual amphibians and small mammals may occur during construction and grounds maintenance.
Vegetation		X		All vegetation disturbing activities would be done within the Proposed Action site clearing limits. No notable impact on any vegetation.
Cultural Resources	X			According to correspondence with NC SHPO, the Proposed Action would have no effect on cultural resources. However, in the event human remains or cultural or archeological materials and/or artifacts are discovered all work will cease, and the applicant will contact appropriate authorities (NC SHPO and FEMA) within one working day.
Socioeconomic Resources		X		None
Human Health and Safety		X		None. The Proposed Action would improve interoperable communications in Haywood County and parts of surrounding counties.
Environmental Justice	X			None. The Proposed Action would benefit all communities in Haywood County and parts of surrounding counties.
Noise		X		All noise producing activities would be done during normal working hours. (7:00 a.m. to 5:00 p.m. local time)
Infrastructure, Utilities,		X		None

Transportation, and Waste Management				
Aesthetics and Visual Impacts		X		None

## 4.1 PHYSICAL RESOURCES

### 4.1.1 Geology and Soils

#### Existing Conditions

The North Carolina Highway Patrol’s Proposed Action site is located on the geologic formation known as Copperfield Formation (Zch), which is described as metagraywacke, massive, graded bedding common; includes dark-gray slate, mica schist, and nodular calc-silicate rock (Figure 7). Proposed Action site soils include the Soco-Stecoah (SoE) complex. Soco-Stecoah soils are generally described as well drained soils found on mountain slopes and ridges with surface areas consisting of cobbles, stones, or boulders and formed from residuum weathered from metaconglomerate and/or meta greywacke and/or meta sandstone that is affected by soil creep in the upper solum (U.S. Department of Agriculture).

This part of Haywood County is in the High Mountains Ecoregion, within the Blue Ridge Physiographic Province of North Carolina. The Blue Ridge Physiographic Province is characterized as a mountainous area of steep ridges, inter-mountain basins and valleys that intersect at all angles. The High Mountains Ecoregion includes several disjunct high elevation areas generally above 4,500 feet. The climate of the region is more severe and boreal-like compared to surrounding regions with wind and ice affecting vegetation. Spruce and Fraser fir forests are found in high elevations with red oak forests, and northern hardwood forests consisting of beech, yellow birch, yellow buckeye, and sugar maple common in lower elevations. (Griffith, 2009). Proposed Action ground disturbing activities (e.g., excavation, grading, backfilling, trenching and other activities) would impact geology and soils.

#### Proposed Action

The North Carolina Highway Patrol’s Proposed Action would have “no significant impact” on existing geological or soil conditions at the Proposed Action site. However, minor soil erosion and runoff may occur from the Hazel Top Mountain tower construction ground-disturbing activities, such as vegetation clearing, grading and excavation. Best Management Practices (BMP’s) would be implemented and followed during 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 would disturb less than 1 acre are not required to obtain a National Pollutant Discharge Elimination System (NPDES) Permit.

Based on NRCS review of the Proposed Action, the Proposed Action site soil types are not defined as prime. The Proposed Action is not located on a unique geologic formation. Consultation with Kent Clary, NRCS North Carolina Area 1 Soil Scientist, was done to determine if mitigation and

regulatory requirements would be required. According to Mr. Clary the Proposed Action site contains no prime, unique, statewide or local significant farmland. Due to the proposed area of disturbance of less than 1 acre and the lack of significant farmland, it was determined that project construction would not significantly impact geology or prime or unique soils (Figure 8).

#### **4.1.2 Air Quality**

##### **Existing Conditions**

The Clean Air Act (CAA) requires that states adopt ambient air quality standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. Under the CAA, the EPA establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of sensitive populations, such as people with asthma, children, and older adults. Secondary air quality standards protect public welfare by promoting ecosystem health and preventing decreased visibility and damage to crops and buildings. The EPA has set National Ambient Air Quality Standards (NAAQS) for the following five major pollutants: carbon monoxide (CO), ozone O<sub>3</sub>, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>) and particulate matter. (<http://www.epa.gov/cleanairactbenefits/economy.html>).

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 2, 2013, the Air Quality Index for the Asheville Ridge Tops (above 4,000 feet) is 20. According to the Division of Air Quality, based on 1999 emissions inventories, Haywood County has 8,648 tons per year of NO<sub>x</sub> and the county has 5,228 tons per year of VOC (anthropogenic only). In 2002, the Blue Ridge Paper Products, Inc. facility located at 175 Main Street, Canton, NC (~13 miles southeast of the Proposed Action) was the highest producer of air emissions in Haywood County (Scorecard, 2005).

Haywood County has been designated by the U.S. EPA as being in attainment with respect to the NAAQS for the designated criteria pollutants of carbon monoxide, 8-hour ozone, nitrogen dioxide, sulfur dioxide, lead, particulate matter with a diameter of 2.5 microns, and particulate matter with a diameter of 10 microns.

##### **Proposed Action**

Construction vehicle and equipment activities would be during normal working hours of 7:00 a.m. to 5:00 pm, and would have minor, short-term adverse impacts on air quality at and near the Proposed Action site. However, due to limited duration of vehicle and equipment use, and properly maintaining and operating vehicles and equipment, criteria air pollutants would not increase above accepted levels, resulting in no significant air quality impact.

After construction completion, ambient air quality at and near the Proposed Action site would likely return to previous, normal levels. The Proposed Action would not result in long-term operation of significant emission-generating sources, nor would it significantly alter existing ambient air quality. The proposed 40 to 80-kW emergency diesel powered generator, located

within the proposed tower compound, would be an intermittent emission source. Generator frequency and duration of emissions would be limited due to the generator only being used during power outages and routine inspections. Also, Federal regulations limit backup generator use to 500 hours per year. North Carolina Highway Patrol communication tower sites use 40 to 80-kW Generac® Industrial Diesel Generators. According to Generac® product specification sheets, the generators are classified under Tier III of the EPA Emissions Compliance with an EPA Emissions Engine Reference of JDXL03.0113.

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 also indicated there are no Federal Regulations under the Clean Air Act for emergency use generators with a rated capacity of under 590-kW for diesel fired engines (Appendix C).

Emergency generator use is not expected to cause ambient air quality levels to notably 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**

Area annual rainfall averages about 47 inches per year.

Water resources are inherently site-specific resources. According to the USGS Cove Creek Gap, NC 7.5 Minute Topographic Quadrangle Map (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 3700870000J dated 4/3/2012 (Figure 5); USFWS National Wetland Inventory Map (Figure 6), and the [www.rivers.gov](http://www.rivers.gov) website, the Proposed Action site is about 4,400 feet above mean sea level, there are no wetlands, floodplains, or wild or scenic rivers on or near the proposed tower site. Site reconnaissance on 6/6/2012 confirmed this information.

The nearest jurisdictional water body, an intermittent and unnamed tributary of Right Fork Cove Creek, is located about 1,200 feet southwest of the proposed tower site.

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](http://www.rivers.gov) website which indicates five Designated Wild and Scenic Rivers are located in North Carolina, but none are within Haywood County. However, the National Park Service Rivers, Trails, and Conservation Assistance (NPS RTCA) program identified three (3) significant streams within Haywood County, East Fork Pigeon River, Little East Fork Pigeon River, and Cold Springs Creek. The East Fork

Pigeon River is a highly scenic stream which forms at its headwaters in the Sherwood Wildlife Management Area and flows through Pisgah National Forest. It is described as a primitive area accessible only by foot and contains numerous cascades and small falls. The East Fork Pigeon River is located about 14 miles southeast of the Proposed Action. The Little East Fork Pigeon River is a tributary of the West Fork Pigeon River and is a small stream which flows through the Pisgah National Forest and contains several major waterfalls. The Little East Fork Pigeon River is located about 15 miles southeast of the Proposed Action. Cold Springs Creek is small mountain stream that flows entirely within the Harmon Den Wildlife Management Area before flowing into the Pigeon River in northern Haywood County. Cold Springs Creek is located about 7 miles north of the Proposed Action.

The Proposed Action or operational actions are unlikely to impact any Designated Wild and Scenic Rivers due to minimal area of ground disturbance and the distance to the nearest identified significant stream (about 7 miles).

#### **4.2.2 Water Quality**

##### **Existing Conditions**

The nearest water body the Proposed Action site drains into is an intermittent, unnamed tributary of Right Fork Cove Creek, about 1,200 feet to the southwest of the site.

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 Impacts** – Water quality impacts during the Hazel Top Mountain tower and compound construction may originate from erosion and runoff from soil disturbance associated with temporary material staging locations, site preparation, access road improvement, 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 0.03 acres of disturbance associated with the Hazel Top Mountain 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 would 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. Hazel Top Mountain tower site construction would not significantly impact water quality.

**Operations Impacts** – Operations 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 an herbicide spill or application are minimal due to the limited occurrences annually and the small quantity involved.

BMPs during the project construction stage would continue until the site is fully revegetated. If required, “Spill Prevention, Control, and Countermeasure Plan” (SPCC) would 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 Plan if the aggregate aboveground storage tank capacity is under 1,320 gallons. According to the Construction Drawings completed by TEP, the NCHP proposes the installation of a diesel fueled emergency generator that will be equipped with an approximately 300-gallon diesel storage tank. The aggregate aboveground storage tank capacity associate with the Proposed Action is not anticipated to exceed 1,320 gallons. Therefore, a SPCC Spill Prevention Plan is not required. 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**

##### **Existing Conditions**

According to site inspection, the USGS Cove Creek Gap, NC 7.5 Minute Topographic Quadrangle Map (Figure 2), and National Wetlands Inventory Map (Figure 6), the Proposed Action is not located within a wetland.

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

#### **4.2.4 Floodplain Information**

##### **Existing Conditions**

According to the FEMA Flood Insurance Rate Map (FIRM) Panel #3700870000J, dated 4/3/2012 the Proposed Action site is not located in a Special Flood Hazard Area (SFHA). Figure 5 depicts the pertinent FEMA FIRM Panel of the Proposed Action location.

**Construction and Operations Impacts** – The Proposed Action is not located within or near a Special Flood Hazard Area (SFHA). 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) has identified nine (9) endangered species in Haywood County, NC. The Carolina Northern Flying Squirrel (*Glaucomys sabrinus coloratus*) is a nocturnal animal that is about one-third larger than the common southern flying squirrel. According to the USFWS, Northern Flying squirrels are typically found in areas where northern hardwoods, such as yellow birch, are adjacent to higher-elevation red spruce-Fraser fir forest. The Gray Bat (*Myotis grisescens*) is the largest member of its genus in the eastern United States. Gray Bats roost in caves year round. Most of the winter caves are deep and vertical. All of these caves provide a large volume below the lowest entrance and act as cold air traps. In summer, a wider variety of caves are used that act as warm air traps. The Indiana Bat (*Myotis sodalists*) hibernates in large dense clusters of up to several thousands in sections of the hibernation cave where temperatures average between 38 and 43 degrees. In the summer, it is believed that the Indiana Bat can roost under loose bark, including that of hickory trees. The Spruce Fir Moss Spider (*Microhexura montivaga*) is one of the smallest members of the “tarantulas”. According to the USFWS the Spruce Fir Moss Spider is known to occur only on the highest mountain peaks, at and above 5,400-ft in elevation, in the southern Appalachian Mountains. Habitat consists of damp, but well drained, moss mats growing on rock outcrops and boulders in well shaded situations. Spreading avens (*Geum radiatum*) is a tall perennial herb in the rose family which produces bright yellow flowers from June-September and fruits from August-October. Preferred habitat for Spreading avens consists of areas within full sun on shallow acidic soils of high elevation cliffs (above 4,200-ft), rocky outcrops, steep slopes, and on gravelly talus. The bog turtle (*Haliaeetus leucocephalus*) is the smallest emydid turtle, and one of the smallest turtles in the world. Adults range in length from 3.1 to 4.5 inches. The bog turtle prefers spring seeps and open, marshy meadows. The small whorled pogonia (*Isotria medeoloides*) is a member of the orchid family. It usually has a single grayish-green stem that grows about 10 inches tall when in flower and about 14 inches when bearing fruit. The small whorled pogonia prefers older hardwood stands of beech, birch, maple, oak and hickory that have an open understory. The Rock Gnome Lichen (*Gymnoderma lineare*) occurs in dense colonies of narrow strap-like lobes that are about 0.04 inch (1 millimeter) across and generally one to two centimeters long and grows on rocks in areas of high humidity either at high elevations (vertical cliff faces) or on boulders and large rock outcrops in deep river gorges at lower elevations. The USFWS also identified one aquatic threatened or endangered species, the Appalachian elktoe (*Alasmidonta raveneliana*). Habitats for the aforementioned species were compared to the habitat found at the proposed site. And TEP observed no occurrences of the species at the time of inspection on 6/6/2012.

**Construction and Operations Impacts** - Construction and operation of the proposed tower and fenced compound would not affect the listed or proposed protected species or their designated critical habitats. Coordination of this analysis with the USFWS Asheville, NC Field Office resulted in their concurrence with the determination that the proposed action “will not affect” any federally listed species (USFWS, 11/14/2012, 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 site inspection on 6/6/2012. Also, according to the North American Migration Flyways Map (<http://www.birdnature.com/allflyways.html>), no known migratory bird flyway is located within Haywood 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 Impacts** – Hazel Top Mountain tower construction activities would have minor short and long-term 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 Impacts** – The North Carolina Highway Patrol's proposed Hazel Top Mountain tower would be a self-support tower about 170 feet (51.8 m) high. Hazel Top Mountain tower construction activities may have minor long-term impacts on migratory birds.

Impacts on migratory birds may occur as a result of collision with the towers, antennas, 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. 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.

To reduce impacts to migratory birds the North Carolina Highway Patrol is proposing the construction of a 170-ft self-support tower that will not require the use of guy wires. Additionally, the proposed structure will not exceed 450-ft AGL in height and according to FCC regulations will not require the completion of an Environmental Assessment regarding impacts to migratory birds. The proposed 170-ft AGL self-support tower is anticipated to be an unlit structure.

### 4.3.3 Fish and Wildlife

#### 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 (11/14/2012), the site is not located in or next to an USFWS managed wildlife refuge area. The Proposed Action site is currently occupied by previously disturbed early successional and undeveloped forested land uses adjacent to an existing fenced and graveled communications facility and small mammals, amphibians, insects, and other fauna species typical in western North Carolina may traverse the property.

**Construction Impacts** – Hazel Top Mountain tower 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 Impacts** – Proposed Action routine operations and maintenance would include mowing vegetation around the fenced compound and along the access road 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 activities at the Hazel Top Mountain tower site may lead to habitat degradation and occasional mortality of some wildlife species (e.g., amphibians and small mammals) individuals on the site or access road.

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 North Carolina Highway Patrol’s Proposed Action site is occupied by previously disturbed early successional and undeveloped forested land uses adjacent to an existing fenced and graveled communications facility. The area surrounding the proposed tower compound is currently comprised of early successional and undeveloped forested land containing Red Maple (*Acer rubrum*), White Oak (*Quercus alba*), and Black Oak (*Quercus velutina*) in the canopy layer with Rhododendron and American Chestnut (*Castanea dentata*) seedlings comprising the majority of

the understory. The proposed tower compound is currently comprised of early successional land containing Rhododendron and American chestnut (*Castanea dentata*).

**Construction and Operations Impacts** – Mechanized clearing of vegetation in the proposed construction site would be done before the tower facility construction. The mechanized clearing of vegetation would be about 0.03 acres and would have no significant impact on vegetation throughout the remainder of the parent property. No trees over 3-inches DBH will be removed as a result of the Proposed Action.

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

## **4.4 CULTURAL RESOURCES**

### **4.4.1 ACHP Program Comment**

FEMA is required under the National Historic Preservation Act (NHPA) Section 106 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 accepted by FEMA. Additional Tribal consultations were completed by FEMA for any Tribes not included in the FCC review though have informed FEMA of their status as an interested party in the specified area.

### **4.4.2 FCC Nationwide Programmatic Agreement**

In March 2005, the FCC implemented a Nationwide Programmatic Agreement (NPA) ([http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-04-222A3.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-222A3.pdf)) 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 10/15/2012 and was assigned TCNS# 89357 for the proposed Hazel Top Mountain tower site. The TCNS system notified seven Tribes that expressed interest in Haywood County, North Carolina. The eight (8) Tribes notified by the TCNS system were the Eastern Band of Cherokee Indians, Tuscarora Nation, Cherokee Nation, United Keetoowah Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, Catawba Indian Nation and Muscogee Creek Nation. TEP used the provided TCNS tribe list to contact these Tribes a second time, on 11/5/2012, to obtain additional information on the Proposed Action. All the appropriate Tribes concurred with the Proposed Action (Appendix B). Two (2) additional Tribes were contacted by FEMA due to a stated interest in the area, which include the Seminole Tribe of Florida and the Seminole Nation of Florida.

#### **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 map (Cove Creek Gap) to assess potential significant impacts on architectural, historic, or archeological sites near the Proposed Action. In addition, TEP contracted R.S. Webb and Associates, 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 (NHRP) would be affected by the Proposed Hazel Top Mountain tower undertaking (action). In addition, the evaluation concluded that no additional archaeological investigation is recommended for the Proposed Action site. 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 11/14/2012 for FCC requirements that included a 0.5 mile visual Area of Potential Effects (APE) (Appendix B).

#### **4.4.5 Indian Tribal Consultation**

The TCNS system notified eight (8) Native American Indian Tribes that expressed interest in Haywood County, North Carolina. These Tribes were the Eastern Band of Cherokee Indians, Tuscarora Nation, Cherokee Nation, Muscogee Creek Nation, United Keetoowah Band of Cherokee Indians, 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, if needed, to obtain additional information on the Proposed Action. All Native American Indian Tribes concurred with the Proposed Action (Appendix B). Two (2) additional Tribes were contacted by FEMA due to a stated interest in the area, which include the Seminole Tribe of Florida and the Seminole Nation of Florida.

TEP sent follow-up notification letters on 11/5/2012 to each Tribe (if needed) by the TCNS system. Sections 4.4.5.1 through 4.4.5.8 summarize the consultations. Sections 4.4.5.9 through 4.4.5.10 summarize consultations conducted by FEMA.

##### **4.4.5.1 Eastern Band of Cherokee Indians**

TEP provided a follow-up notification letter to Ms. Yolanda M. Saunooke of the Eastern Band of Cherokee Indians (EBCI) on 11/5/2012 by email. TEP received concurrence from the EBCI on 11/14/2012, which stated “The EBCI THPO has reviewed the provided materials including the Phase I archaeological report for the proposed communications tower construction on the Hazel Top Mtn. tower located near Waynesville, Haywood County, NC. The EBCI THPO concurs with the archaeologist’s recommendations that no archaeological sites eligible for inclusion on the National Register of Historic Places were encountered during the recent phase I archaeological field survey. It is the opinion of the EBCI THPO that no cultural resources important to the Cherokee people will be adversely affected by the proposed undertaking. As such, the proposed undertaking may proceed as planned. In the event that construction plans change, or cultural resources or human remains are encountered during the construction phase, all work should cease, and this office notified to continue consultation as mandated under Section 106 of the NHPA.”

##### **4.4.5.2 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 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 10/19/2012, the TCNS system notified all Tribes that indicated interest in Haywood County, NC. The 30-day comment period ended on 11/18/2012. No response has been received by TEP personnel before issuance of this Draft EA and no additional consultation was required.

##### **4.4.5.3 Cherokee Nation**

TEP provided a follow-up notification letter to Dr. Richard Allen of the Cherokee Nation on 11/5/2012 by email. TEP received concurrence from the Cherokee Nation by email on 11/27/13

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).

#### **4.4.5.4 Muscogee Creek Nation**

TEP provided a follow-up notification letter to Mr. Emman Spain of the Muscogee Creek Nation on 12/7/2012 by U.S. Mail. TEP received concurrence from the Muscogee Creek Nation on 1/10/2013 that stated “After reviewing all pertinent information and our records, at this time we are currently unaware of any historic, cultural, religious or sacred sites at this exact location. Therefore, we recommend a finding of “**No Historic Properties Effectuated**” for the proposed undertaking. Furthermore, due to the historic presence of our people within the project area, inadvertent discoveries of human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur, we request all work cease and the Muscogee (Creek) Nation and other appropriate agencies be immediately notified.” (Appendix B).

#### **4.4.5.5 United Keetoowah Band of Cherokee Indians**

TEP received concurrence from Ms. Lisa C. LaRue-Baker of the United Keetoowah Band of Cherokee Indians on 10/31/2012 that stated “we have no interest in this site. However, if the Applicant discovers archaeological remains or resources during construction, the Applicant should immediately stop construction and notify the appropriate Federal Agency and the Tribe.” No follow-up notification letter was provided to the United Keetoowah Band of Cherokee Indians.

#### **4.4.5.6 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 10/19/2012, the TCNS system notified all Tribes that indicated interest in Haywood County. The 30-day comment period ended on 11/18/2012. No response has been received by TEP personnel before the issuance of this Draft EA and no additional consultation was required.

#### **4.4.5.7 Shawnee Tribe**

TEP provided follow-up notification to Ms. Kim Jumper of the Shawnee Tribe on 11/5/2012, by standard U.S. mail. TEP received concurrence from the Shawnee Tribe on 11/20/2012, which stated; “The Shawnee Tribe’s Tribal Historic Preservation Officer concurs that no known historic properties would 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).

#### **4.4.5.8 Catawba Indian Nation**

TEP provided a follow-up notification to Ms. Wenonah Haire of the Catawba Indian Nation Tribal Historic Preservation Office on 11/5/2012, by standard U.S. mail. TEP received concurrence from the Catawba Indian Nation on 11/20/2012 that stated, “The Catawba have no immediate concerns with regard to traditional cultural properties, sacred 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).

#### **4.4.5.9 Seminole Tribe of Florida**

FEMA notified Dr. Paul N. Backhouse of the Seminole Tribe of Florida Tribal Historic Preservation Office on 8/14/2013, via email. No consultation response was received.

#### **4.4.5.10 Seminole Nation of Oklahoma**

FEMA notified Ms. Nancy Harjo of the Seminole Nation of Oklahoma Tribal Historic Preservation Office on 8/14/2013 via email. No consultation response was received.

#### **4.4.6 Inadvertent Discovery**

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

### **4.5 SOCIOECONOMIC RESOURCES**

#### **4.5.1 Environmental Justice**

Presidential Executive Order (EO) 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) requires federal agencies and those receiving federal funds to consider possible highly disproportionate and adverse environmental effects of their actions on minorities and low-income populations.

The North Carolina Highway Patrol’s Proposed Action would 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 Haywood 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. The parent property is covered by mature deciduous hardwood forested land and an existing communications tower facility. The Proposed Action site is located in a rural portion of Haywood County that has mostly undeveloped forest, agricultural and low density residential land uses. 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 Impacts** – Tower and compound construction would temporarily increase local noise. The amount and type of noise disturbance would vary depending on the type of machinery used, distance from the construction site and noise source, construction schedule and duration, weather conditions, and site specific and area specific conditions. Heavy machinery use may result in temporary, minor adverse noise impacts on nearby low density residences. The nearest residence from the proposed tower site and noise source is about 1,050 feet to the east. This residence is separated from the proposed tower site by about 950 feet of dense hardwood forest. Construction-related noise would typically occur during normal working hours (7:00 a.m. to 5:00 p.m.), when this noise would be better masked by ambient noise levels of the surrounding project area. Noise levels before and after construction would likely drop to the ambient noise levels of the project area.

It is projected that noise levels from construction activities would be temporary (no more than six to eight 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 would be partly masked by trees and other vegetation around the Proposed Action site. Construction noise levels from the Hazel Top Mountain tower and compound construction would not be significant.

**Operations Impacts** – The project area's ambient noise levels would return to normal after the proposed construction is finished. Temporary operations-related noise increases would 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 Hazel Top Mountain tower facility would 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 would 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**

## **Existing Conditions**

Existing roads in the area will be used to access the Proposed Action site during construction and operations related activities. Roads in the general vicinity are limited to one lane gravel roads associated with residential homes. Traffic in the area is limited to rural residential related activities.

## **Construction and Operations Impacts**

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 would 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 Climbing Bear Ridge. These existing utilities would be used to provide electrical and telephone services for the finished facility.

**Construction and Operations Impacts** – Construction and operations impacts are not expected to lead to major supply shortages 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 previously disturbed area adjacent to an existing communications tower facility on part of an approximately 41-acre parcel. Based on the specified elevation of the proposed antennas (>10 meters AGL), distance to the nearest occupied structure (0.20-miles), and because the site would be located within a restricted area, radio frequency emissions are not expected to threaten human health or safety.

**Construction and Operations 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, would 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 Hazel Top Mountain tower facility would 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 would 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 the 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 Haywood 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, would be 4,606. The proposed 119 VIPER network towers, including the 56 towers remaining to be constructed would result in an increase of about 2.58% in the number of communications towers in the state of North Carolina. The North Carolina Highway Patrol's Proposed Action's purpose is to meet the North Carolina Highway Patrol's current radio frequency coverage needs in Haywood County and parts of surrounding counties; and the need is to better protect the lives, property, environmental quality, and quality of life for over 59,000 people.

**Construction Impacts** – Construction 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 impacts, these impacts are expected to be minor and temporary.

**Operations Impacts** – Operations 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 Haywood County Planning Board, Clyde Historic Preservation Commission, Waynesville Historic Preservation Commission, and the Great Smoky Mountains National Park regarding the Proposed Action by USPS mail on 11/5/2012, inviting them to be a consulting party regarding any potential impact to historical or archaeological resources in the area. The Great Smoky Mountains National Park responded to TEP's request for comments on 12/5/2012, the response can be found in Appendix B. No additional responses have been received as of the issuance of this Draft EA. TEP also published Public Notice in the "The Mountaineer" newspaper on 11/7/2012 regarding any impacts the Proposed Action may have on historic resources within the APE. No responses to the Public Notice requesting comments have been received by TEP as of the issuance of this Draft EA (Appendix B).

## **6.0 CONCLUSIONS**

The North Carolina Highway Patrol's Proposed Action would be the construction of a new radio transmitting and receiving tower involving a 170 feet AGL self-support tower, thus requiring a site specific FEMA HSGP NEPA-EA. The Proposed Action would 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 improvements would occur. Existing gaps in public safety interoperable communications would persist, resulting in continuing 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 B).

A DHS Draft EA public notice was posted in the Mountaineer on **TBD** and the draft EA was available for review for a period of fifteen (15) days at the Haywood County Public Library, Waynesville, NC, 28786. The draft EA was also available online at the <http://www.fema.gov/plan/ehp/envdocuments/ea-region4.shtm> website. The public was invited to comment on the proposed action and the draft EA.

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 AND REVIEWERS**

### **Document Preparers:**

*Principal Investigator*

George T. Swearingen, III, Environmental Division Manager, Tower Engineering Professionals, Inc.

*Others*

Andrew B. Blake, Environmental Scientist, Tower Engineering Professionals, Inc.

**Document Reviewers:**

Stephanie Everfield, FEMA Region IV, Environmental Specialist

William R. Straw, PhD, FEMA Region IV, Regional Environmental Officer

**8.0 REFERENCES**

ASR Registration Search, Federal Communications Commission, 2013. Available at:  
[http://wireless2.fcc.gov/UlsApp/AsrSearch/asrResults.jsp;JSESSIONID\\_ASRSEARCH=jyP4R0vPgpNhw0zjZpHG11nHTRygfsn35wTZrHcfl6kZy2GKKK2Q!563910900!1264182043?searchType=TRL](http://wireless2.fcc.gov/UlsApp/AsrSearch/asrResults.jsp;JSESSIONID_ASRSEARCH=jyP4R0vPgpNhw0zjZpHG11nHTRygfsn35wTZrHcfl6kZy2GKKK2Q!563910900!1264182043?searchType=TRL), 2013 Accessed March 4, 2013.

CAMA Permits - Federal Consistency, North Carolina Division of Coastal Management, 2012.  
Available at: <http://dcm2.enr.state.nc.us/permits/consist.htm>, 2012 Accessed March 1, 2013.

Climate in Waynesville, North Carolina County (NC), 2013. Available at:  
[http://www.bestplaces.net/climate/city/north\\_carolina/waynesville](http://www.bestplaces.net/climate/city/north_carolina/waynesville), 2013.  
Accessed March 1, 2013.

Dangerous Decibels, 2001. Information Center: Frequently Asked Questions. Available at:  
<http://www.dangerousdecibels.org/faq.cfm>, Accessed March 4, 2013.

Department of Agriculture (United States Department of Agriculture), 2000. Natural Resources Conservation Service. Acres of Prime Farmland, 1997, revised December 2000.

Department of Agriculture, Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov>, Accessed March 1, 2013.

Dublin (City of Dublin, Ohio, Land Use and Long Range Planning), 2008. Land Use Definitions. Available at: <http://www.dublin.oh.us/planning/pdf/LandUseDefinitions.pdf>, Accessed February 9, 2010.

Environmental Protection Agency, 2008. Map of EPA Region 6 Sole Source Aquifers. January 30, 2008 Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community 370087, Panel Number 0000J, dated April 3, 2012.

Environmental Protection Agency (United States Environmental Protection Agency), 1974. Air and Radiation: Noise Pollution. Available at: <http://www.epa.gov/air/noise.html>, Accessed March 1, 2013.

- Environmental Protection Agency (United States Environmental Protection Agency), 1974. Protective Noise Levels, Condensed Version of EPA's Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. EPA/ONAC 550/9-74-004, March, 1974. Available at: <http://nonoise.org/library/levels/levels.htm>, Accessed March 1, 2013.
- Federal Energy Regulatory Commission, California State Lands Commission February 2002. Draft Environmental Impact Statement/Environmental Impact Report Kern River 2003 Expansion Project.
- FWS (United States Fish and Wildlife Service), 2007. Consultations with Federal Agencies Section 7 of the Endangered Species Act. February 2007.
- Gehring J., 2003. "Avian Collision Study Plan for the Michigan Public Safety Communications System (MPSCS): Assessing the Role of Lighting, Height, and Guy Wires in Avian Mortality Associated with Wireless Communications and Broadcast Towers". September 2003
- Geological Survey (United States Geological Survey) – 7.5 Minute Topographic Quadrangle of Cove Creek Gap, North Carolina, 2002.
- Griffith G.E., Omernik J.M., 2009. The Encyclopedia of Earth: Ecoregions of North Carolina and South Carolina. Available at: [http://www.eoearth.org/article/Ecoregions\\_of\\_North\\_Carolina\\_and\\_South\\_Carolina\\_\(EPA\)](http://www.eoearth.org/article/Ecoregions_of_North_Carolina_and_South_Carolina_(EPA)), Accessed March 4, 2013.
- Haywood County QuickFacts from the US Census Bureau, 2013. Available at: <http://quickfacts.census.gov/qfd/states/37/37087.html>, 2013 Accessed March 1, 2013.
- Hearing Planet, 2010. Dangerous Decibel Levels. Available at: <http://www.hearingplanet.com/article-dangerous-decibel-levels.php>, Accessed March 4 2013.
- IWGSDI (Interagency Working Group on Sustainable Development Indicators), 1996. Agricultural Land and Categories. June 1996. Available at: [http://www.hq.nasa.gov/iwgdsdi/Agricultural\\_Land.html](http://www.hq.nasa.gov/iwgdsdi/Agricultural_Land.html), Accessed March 1, 2013.
- National Wild & Scenic Rivers, 2012. Available at: <http://rivers.gov/wildriverslist.html>, 2012 Accessed March 1, 2013.
- National Wildlife Refuge System Administration Act, United States Fish and Wildlife Service, 2012, Available at: <http://www.fws.gov/laws/lawsdigest/NWRSACT.HTML>, 2012 Accessed March 1, 2013.
- NC DCM - CAMA Counties, North Carolina Division of Coastal Management, 2012 Available at: [http://dcm2.enr.state.nc.us/cama\\_counties.htm](http://dcm2.enr.state.nc.us/cama_counties.htm), 2012 Accessed March 1, 2013.
- NOAA Office of Ocean and Coastal Resource Management: My State: North Carolina, 2012

Available at: <http://coastalmanagement.noaa.gov/mystate/nc.html>, 2012 Accessed March 1, 2013.

North American Migration Flyways, 2012.

Available at: <http://www.birdnature.com/flyways.html>, Accessed March 1, 2013.

North Carolina Department of Crime Control and Public Safety: VIPER, 2008. Voice Interoperability Plan for Emergency Responders. July 2008. Available at: <http://www.nccrimecontrol.org>, Accessed March 22, 2012.

North Carolina Segments from Rivers, Trails & Conservation Program, National Park Service, 2012. Available at: <http://www.nps.gov/ncrc/programs/rtca/nri/states/nc.html>, 2012 Accessed March 1, 2013.

NPS, 2008. Technical Assistance Manual: Compliance with the National Environmental Policy Act and the National Historic Preservation Act. March 2008. National Park Service Intermountain Region, Denver, Colorado.

Scorecard: The Pollution Information Site, 2005. Criteria Air Pollutant Report: Haywood County, North Carolina. Available at: [http://scorecard.goodguide.com/envreleases/county.tcl?fips\\_county\\_code=37087#major\\_chemical\\_releases](http://scorecard.goodguide.com/envreleases/county.tcl?fips_county_code=37087#major_chemical_releases), Accessed March 1, 2013.

Scorecard: The Pollution Information Site, 2005. Environmental Releases for Blue Ridge Paper Prods.Inc. Available at: [http://scorecard.goodguide.com/env-releases/facility.tcl?tri\\_id=28716CHMPNMAINS](http://scorecard.goodguide.com/env-releases/facility.tcl?tri_id=28716CHMPNMAINS), Accessed March 1, 2013.

United States Department of Homeland Security, 2011, Homeland Security Grant Program Guidance and Application Kit, May 2011. Available at: [http://www.fema.gov/pdf/government/grant/2011/fy11\\_hsgp\\_kit.pdf](http://www.fema.gov/pdf/government/grant/2011/fy11_hsgp_kit.pdf), Accessed February 28, 2013.

USCG (United States Coast Guard), 2006. Programmatic Environmental Impact Statement (PEIS) for Implementation of the USCG NAIS Project. October 2006.

Waynesville QuickFacts from the US Census Bureau, 2013. Available at: <http://quickfacts.census.gov/qfd/states/37/3771500.html>, 2013 Accessed March 1, 2013.