Attachment 4

ATTACHMENT 4

Environmental Assessment Statement

## I. PHYSICAL IMPACT

### A. WATER FLOW AND QUALITY

No significant water flow and/or water quality changes are anticipated as a result of the construction or operation of the proposed facility. The construction and operation of the tower and related site improvements will have no direct effect on any on or off-site watercourses or waterbodies, and the equipment associated with the facility will discharge no pollutants to area surface or groundwater systems. Best Management Practices to control storm water and soil erosion during construction will be implemented.

### B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at the proposed facility would emit no air pollutants of any kind. A diesel-powered generator for emergency power is proposed which will have compliant air emissions associated with its operation.

### C. LAND

Clearing and grading will include the removal of 20 trees that are 6' DBH or larger with a total area of disturbance of approximately 20,800 SF. The site is an overall balanced site in that 420 CY of materials will be removed for trenching and the compound area requiring 250 CY of fill. The remaining land of the host parcel and the access parcel would remain unchanged by the construction and operation of the facility.

### D. NOISE

The equipment to be in operation at the facility would not emit noise other than that provided by the operation of the installed heating, air-conditioning and ventilation system. Some construction related noise would be anticipated during facility construction, which is expected to take approximately six to eight weeks. Temporary power outages could involve sound from the emergency generator.

### E. POWER DENSITY

The cumulative worst-case calculation of power density from AT&T's operations at the facility would be 0.29% of the federally promulgated emissions standard at a distance of 750 feet from the tower. Attached is a copy of a Power Density Report dated August 27, 2013 prepared by AT&T's radio frequency consultant SAI Communications. At all distances, the Facility will comply with Federal and State requirements

F. VISIBILITY

The potential visual impact of the proposed monopole was determined by preparation of the attached Visibility Analysis. The potential visibility was assessed within an approximate two (2) mile radius using a computer-based, predictive view shed model an further studied by use of a balloon float and in-field observations. Both year-round and seasonal visibility would be limited due to the topography and vegetative cover in the area. Indeed, year-round visibility within a two-mile radius is limited to approximately 170 acres, or approximately 2.1% of the total study area

II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

The parcel on which the facility is located and immediate surrounding areas exhibit no scenic, natural, historic or recreational characteristics that has been formally documented as unique. The Connecticut State Historic Preservation Officer ("SHPO") has provided a "no effect" determination for the site that included a review of historic districts in Washington, Connecticut. Available Natural Diversity Database maps indicate no extant endangered or special concern species and a final confirmation by the Connecticut Department of Energy and Environmental Protection is forthcoming.

Barrett
Bonacci &
Van Weele, PC

Civil Engineers
Surveyors
Planners

NY
175A Commerce Dr.
Hauppauge, NY 11788
T 631 435-1111
F 631 435-1022

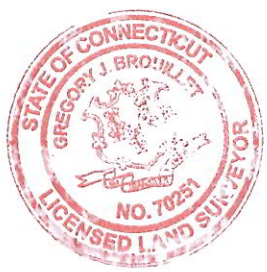
www.bbvpc.com

## FAA 2-C SURVEY CERTIFICATION

| | |
|---|---|
| **Applicant:** | Homeland Towers |
| **Site Name:** | CT112 - Washington |
| **Site Address:** | 10 Blackville Road, Washington, CT 06794 |
| **Survey Method:** | GPS Survey |
| **Vertical Datum:** | NAVD 1988 |
| **Structure Type:** | Proposed Monopine |
| **Ground Elevation:** | 596' |
| **Latitude:** | N. 41°38' 47.52" |
| **Longitude:** | W. 73° 18' 57.79" |
| **Top of Proposed Pole Elevation:** | 736' (140' proposed pole height provided by others) |

**Certification:** I certify that the above antennas are located at the stated latitude and longitude and elevation. The location coordinates are accurate to within +/- 50 feet horizontal and that the site elevation and the height above ground, is accurate within +/- 20 foot vertically. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD83) are expressed as degrees, minutes and seconds, to the nearest (tenth / hundredth) of a second. The vertical datum (height) is in the terms of the North American Vertical Datum of 1988 (NAVD) and is determined to the nearest foot.

**Company:** **BARRETT, BONACCI & Van WEELE, P.C.**




**Surveyor:** Gregory Brouillet
Connecticut Licensed Surveyor (# 0070251)

**Date:** May 29, 2013 (Revised 7/12/13) (Revised 8/20/13)

G:\WP_Share\MISC-AMJ\FAA 2C\APT_CT 112 Washington_C130003.doc

Michael Lawton
SAI Communications
260 Cedar Hill St.
Marlborough, MA 01752
Mike.Lawton@sai-comm.com

August 27, 2013

Connecticut Siting Council

Subject: AT&T Wireless, CT2417 – Washington Depot

Dear Connecticut Siting Council:

At the request of AT&T Wireless, SAI Communications has performed an assessment of the RF Power Density at the proposed site located at 10 Blackville Road, Washington Depot, CT.
Calculations were done in compliance with FCC OET Bulletin 65. This report provides an FCC compliance assessment based on a "worst-case" analysis that all transmitters are simultaneously operating at full power. This assessment was performed at 6 feet above ground level with a horizontal distance of 750 feet taken into consideration.

FCC OET Bulletin 65 formula:

$$S = \frac{2.56 * 1.64 * ERP}{4 * \pi * R^2}$$

| Transmission Mode | Antenna Centerline AGL (ft) | Frequency (MHz) | Number of Channels | Effective Radiated Power per Channel (Watts) | Power Density ($mW/cm^2$) | Standard Limits ($mW/cm^2$) | % MPE (Uncontrolled/ General Public) |
|---|---|---|---|---|---|---|---|
| AT&T UMTS | 126 | 850 | 2 | 500.00 | 0.0005 | 0.5667 | 0.08% |
| AT&T UMTS | 126 | 1900 | 2 | 500.00 | 0.0005 | 1 | 0.05% |
| AT&T LTE | 126 | 700 | 2 | 500.00 | 0.0005 | 0.4667 | 0.10% |
| AT&T LTE | 126 | 2100 | 2 | 500.00 | 0.0005 | 1 | 0.05% |
| Total | | | | | | | **0.27%** |

**Conclusion**: AT&T's proposed antenna installation is calculated to be within 0.27% of FCC Standard for General Public/Uncontrolled Maximum Permissible Exposure (MPE) at 6 feet above ground level with a horizontal distance of 750 feet taken into consideration.

Sincerely,

Michael Lawton
SAI Communications

sitesafe
rf compliance experts

200 North Glebe Road, Suite 1000, Arlington, VA 22203-3728
703.276.1100 703.276.1169 fax
FAA@sitesafe.com www.sitesafe.com

# FAA Aeronautical Evaluation

## Washington
## CT112



For more information contact:
faa@sitesafe.com
770.532.3255 phone
703.276.1169 fax

**SITE SPECIFIC EVALUATION**
**FOR**
Client Site Name: Washington
Client Site Number: CT112
Client Site Location: Washington, CT.

Client/Requestor Name: Eileen Tavolacci Date: 8/26/13
Company Name: Homeland Towers
Address: 46 Mill Plain Rd
Address: Danbury Ct. 06811

*This is an evaluation based on application of surfaces identified in Federal Aviation Regulation (FAR) Part 77 and Federal Communication Commission (FCC) Rules Part 17.*

## EXECUTIVE SUMMARY OF FINDINGS

- **The maximum height that can be built at this site without notice to the FAA is 200 feet AGL or 796 feet AMSL.**
- Maximum No Extended Study height at this site is 499 AGL, or 1095 AMSL.
- Maximum No Hazard height at this site is 499 AGL, or 1095 AMSL.
- Maximum no marking and lighting height at this site is 200 AGL, or 796 AMSL.

## SITE DATA SUBMITTED FOR STUDY

| | | |
|---|---|---|
| Type of Structure: | Antenna | |
| Coordinates of site: | Lat: | 41° 38’ 47.52” |
| | Long: | 73° 18’ 57.79” |
| | Datum: | NAD 83 |

| | |
|---|---|
| Site Ground Elevation: | 596 |
| Total Height above the ground of the entire structure (AGL): | 140 |
| Overall height of structure above mean sea level (AMSL): | 736 |

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*

## AIRPORT AND HELIPAD INFORMATION

Nearest public use or Government Use (DOD) facility is Candlelight.

This structure would be located 8.0 NM or 48839 FT from the airport on a bearing of 233 degrees true to the airport.

Nearest private use facility is Long View Landing.

This structure would be located 1.9 NM from the airport on a bearing of 51 degrees true to the airport.

## FINDINGS

### AM Facilities:

*(The FCC protects AM transmission stations from possible electro magnetic interference for a distance of 3.0 km for directional facilities, and 1.0 km for non-directional facilities. Any antenna structures within these distances will most likely require a detuning evaluation of the site) (**Sitesafe offers a full range of detuning services**)*

For a free analysis of this site against the most current FCC data, go to our AM evaluation web site at http://sitesafe.com. A negative certificate can be generated, (on-line) if no conflict is found. If a conflict is found, our AM Detune department will contact you to review the findings.

This site was evaluated against the FCC's AM database, and is not within an AM transmission area.

### FCC Notice Requirements:

*(FCC Rules, Part 17)*

This structure does not require notification to the FAA or FCC based on these rules.

### FAA EMI:

*(The FAA protects certain air navigational aids and radio transmitters from possible electro-magnetic interference. The distance and direction are dependent on the type of facility be evaluated. Most of these transmission and receiver facilities are listed in the National Flight Data Center (NFDC) database.)*

This site would not affect any FAA air navigational aids or transmitters listed in the NFDC database.

### Military Airspace:

This structure will not affect this airspace.

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*

**FAA Evaluation:**

FAR Part 77 paragraph 9 (FAR 77.9). Construction or Alteration requiring notice:
*(These are the imaginary surfaces that the FAA has implemented to provide general criteria for notification purposes only.)*

This structure does not require notification to the FAA.

FAR Part 77 paragraph 17 (FAR 77.17). Standards for Determining Obstructions:
*(These are the imaginary surfaces that the FAA has implemented to protect aircraft safety. If any of these surfaces are penetrated, the structure may pose a Hazard to Air Navigation.)*

This structure does not exceed these surfaces.

## MARKING AND LIGHTING

*FAA Advisory Circular 70/7460-1*

Marking and lighting is not required for this structure.

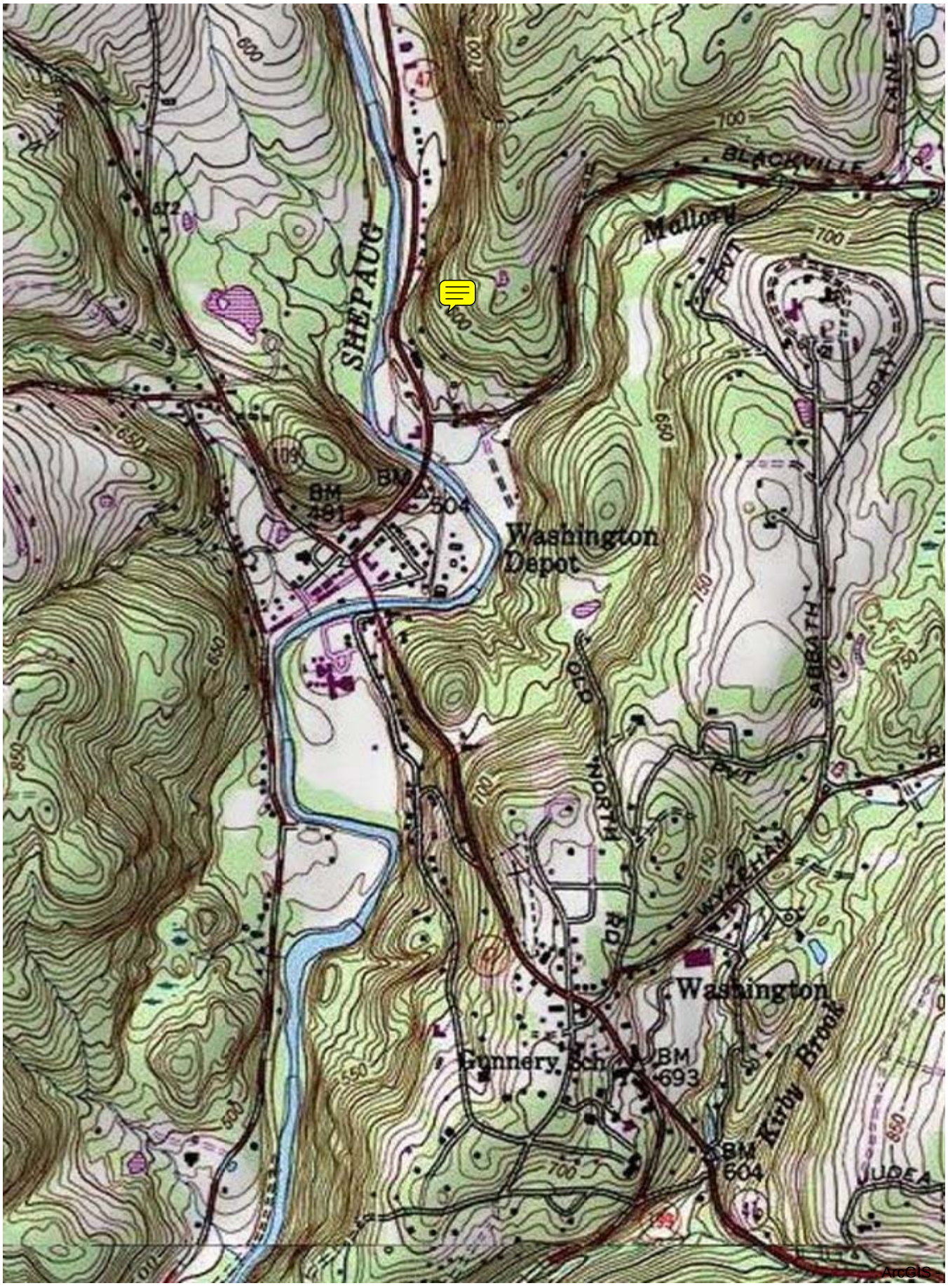
## RECOMMENDATIONS OR ACTIONS

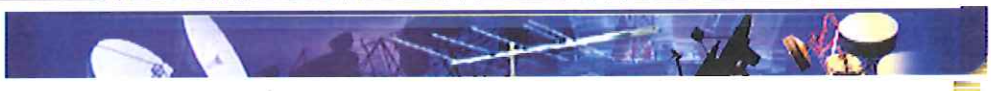
Sitesafe does not consider this site to be a hazard to air navigation as specified in FAR part 77.

☐ FAA Form 7460-1 accomplished.

☐ State notification accomplished.

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*


SHEPAUG
BLACKVILLE
Mallory
PVT
BM 504
Washington Depot
OLD NORTH RD
SABBATH
WYKEHAM
Washington
Gunnery Sch
BM 693
Kirby Brook
BM 604
JUDEA
ArcGIS



# Antenna Structure Registration



## TOWAIR Determination Results

HELP

New Search Printable Page

### *** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

**Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.**

Your Specifications

| | |
|---|---|
| **NAD83 Coordinates** | |
| Latitude | 41-38-47.5 north |
| Longitude | 073-18-57.7 west |
| **Measurements (Meters)** | |
| Overall Structure Height (AGL) | 42.7 |
| Support Structure Height (AGL) | 42.7 |
| Site Elevation (AMSL) | 224.3 |
| **Structure Type** | |
| TREE - When used as a support for an antenna | |

**Tower Construction Notifications**
Notify Tribes and Historic Preservation Officers of your plans to build a tower.

| | |
|---|---|
| **ASR Help** | ASR License Glossary - FAQ - Online Help - Documentation - Technical Support |
| **ASR Online Systems** | TOWAIR- CORES - ASR Online Filing - Application Search - Registration Search |
| **About ASR** | Privacy Statement - About ASR - ASR Home |

# AVIAN RESOURCES EVALUATION

**Date: August 23, 2013**

**Homeland Towers**
**22 Shelter Rock Lane, Building C**
**Danbury, Connecticut 06810**

**APT Project No.: CT283160**

**Re: Proposed Washington Facility – CT112**
**10 Blackville Road**
**Washington, Connecticut**

---

Homeland Towers proposes to construct a new wireless telecommunications Facility ("Facility") at 10 Blackville Road in Washington, Connecticut ("host Property"). The host Property consists of 17.292 acres and is currently developed with the Town of Washington's town garage and public works facilities. The proposed Facility is located within a mature Eastern hemlock dominant forest adjacent to open storage areas at a ground elevation of approximately 596 feet above mean sea level ("AMSL"). The proposed Facility would include of a 135-foot tall monopole disguised as a coniferous tree ("monopine") that would include a five-foot extension of faux top branches, resulting in an overall Facility height of 140 feet above ground level. Future antenna installations on the monopole would be visibly obscured by faux branching. The monopine and associated ground equipment would be enclosed within a 65-foot by 67-foot gravel compound area surrounded with an 8-foot tall chain link fence. Access to the facility will be provided by an approximately 1,400-foot existing gravel access road.

The purpose of this evaluation is to document the proposed Facility's proximity to avian resource areas and its compliance with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species.

All-Points Technology Corporation, P.C. ("APT") reviewed several publicly-available sources of avian data for the state of Connecticut to provide the following information with respect to potential impacts on migratory birds associated with the proposed development. This desktop analysis and attached graphics identify avian resources and their proximities to the proposed Facility. Information within an approximate 2-mile radius of the proposed Facility is graphically depicted on the attached Avian Resources Map. Some of the avian data referenced herein are not located in proximity to the host Property and are therefore not visible on the referenced map due to its scale. However, in those cases the distances separating the proposed Facility from the resources are identified in the discussions below.

## Proximity to Important Bird Areas

The National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. IBAs are sites that provide essential habitat for breeding, wintering, and/or migrating birds. The IBA must support species of conservation concern, restricted-range species, species vulnerable due to

concentration in one general habitat type or biome, or species vulnerable due to their occurrence at high densities as a result of their congregatory behavior[1]. The closest IBA to the proposed Facility is the White Memorial Foundation, located in Litchfield and Morris, Connecticut approximately 5.5 miles to the northeast. White Memorial Foundation is home to The White Memorial Conservation Center, an environmental education center and nature museum location in the heart of the 4,000-acre wildlife sanctuary. Due to its distance from the proposed Facility, this IBA would not experience an adverse impact resulting from the proposed development.

## Supporting Migratory Bird Data

Beyond Audubon's IBAs, the following analysis and attached graphics also identify several additional avian resources and their proximities to the host Property. Although these data sources may not represent habitat indicative of important bird areas, they may indicate possible bird concentrations[2] or migratory pathways.

## Critical Habitat

Connecticut Critical Habitats depict the classification and distribution of 25 rare and specialized wildlife habitats in the state. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and individuals. Critical habitats range in size from areas less than one acre to areas that are tens of acres in extent. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection but may not necessarily be indicative of habitat for bird species. The nearest Critical Habitat to the proposed Facility is an alluvial swamp/floodplain forest located in Litchfield, CT denoted as the Bantam River, Outlet to Bantam Lake located approximately 7 miles to the northeast. Based on the distance separating this resource from the proposed Facility, no adverse impacts are anticipated.

## Avian Survey Routes and Points

### Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes are randomly located to sample habitats that are representative of an entire region. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data is used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities. The nearest survey route to the proposed Facility is the Warren Breeding Bird Survey Route, which

[1] http://web4.audubon.org/bird/iba/iba_intro.html

[2] "bird concentrations" is related to the USFWS *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000) analysis provided at the end of this document

generally begins on the Harwinton and winds its way north through Morris, Litchfield, Goshen and Cornwall before terminating in Warren, within approximately 3.7 miles to the east/northeast. Since bird survey routes represent randomly selected data collection areas, they do not necessarily represent a potential restriction to development projects, including the proposed Facility.

**Hawk Watch Site**

The Hawk Migration Association of North America ("HMANA") is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment and appreciation of raptor migration. HMANA collects hawk count data from almost 200 affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites." In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, White Memorial Foundation, is located in Litchfield along the Bantam River, approximately 7.7 miles to the northeast of the proposed Facility. Hawk Watch Sites may be an indicator of migratory routes for raptors. Based on the distance separating this possible raptor migratory route from the proposed Facility, no adverse impacts are anticipated.

**Bald Eagle Site**

Bald Eagle Sites consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. This survey was initiated in 1979 by the National Wildlife Federation. This database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least four years and where at least four eagles were counted in a single year. A Bald Eagle Site survey route begins in the Town of Bridgewater approximately 7.8 miles south/southwest of the host Property and extends north along Route 133 to the Massachusetts border. Based on the distance separating this resource from the proposed Facility, no adverse impacts are anticipated.

## Flyways

The project area is located in Litchfield County, approximately 35 miles north of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional primary migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland. Smaller inland migratory flyways ("secondary flyways") are often concentrated along major riparian areas as birds use these valuable stopover habitats to rest and refuel as they make their way further inland to their preferred breeding habitats. The Connecticut Migratory Bird Stopover Habitat Project (Stokowski, 2002)[3] identified potential flyways along the Housatonic, Naugatuck, Thames, and Connecticut Rivers. This study paralleled a similar earlier study conducted by the Silvio O. Conte

[3] Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.

National Fish & Wildlife Refuge (Neotropical Migrant Bird Stopover Habitat Survey[4]), which consisted of collection of migratory bird data along the Connecticut River and the following major Connecticut River tributaries: Farmington, Hockanum, Scantic, Park, Mattabesset, Salmon, and Eight Mile Rivers. Of these potential flyways, the nearest to the proposed Facility is the Housatonic River, located approximately 7 miles to the west. The Shepaug River riparian corridor is located 500± feet west of the host Property. Although the Shepaug River is not identified as a potential flyway, it potentially forms a secondary flyway as birds move northward from the Housatonic River corridor during the spring migration. These major riparian corridors may provide secondary flyways as they likely offer more food and protection than more exposed upland sites, particularly during the spring migration[5].

Siting of tower structures within flyways can be a concern, particularly for tall towers and even more particularly for tall towers with guy wires and lighting. The majority of studies on bird mortality due to towers focuses on very tall towers (greater than 1000 feet), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, do result in significant bird mortality (Manville, 2005)[6]. The proposed Facility is not this type of tower, being an unlit, unguyed monopole structure only 140 feet in height. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds[7]. Studies of mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet)[8].

No adverse impacts to migrating bird species are anticipated with the proposed Facility, based on the significant distance separating the proposed Facility from the Housatonic River potential flyway corridor and the short (140-foot) height of the unlit and unguyed Facility.

## Waterfowl Focus Areas

The Atlantic Coast Joint Venture ("ACJV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The ACJV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the proposed Facility is the Lower Housatonic River – Great Meadows area, located approximately 25.5 miles to the southeast. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of these resources to the project area, no direct impacts would occur from development of the proposed Facility.

---

[4] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

[5] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey. http://www.science.smith.edu/stopoverbirds/Chapter5_Conclusions&Recommendations.html

[6] Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

[7] Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

[8] Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

## CTDEEP Migratory Waterfowl Data

The Connecticut Department of Energy and Environmental Protection ("CTDEEP") created a Geographic Information System ("GIS") data layer in 1999 identifying concentration areas of migratory waterfowl at specific locations in Connecticut. The intent of this data layer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

No migratory waterfowl areas are located within the Town of Washington. The nearest migratory waterfowl area (Bantam Lake Litchfield-Morris, CT) is located approximately 5.5 miles to the northeast of the proposed Facility. The associated species are identified as bufflehead, Canada goose, mallard, green wing teal, and wood duck. Based on the separating distance, no impacts to migratory waterfowl habitat are anticipated to result from development of the proposed Facility.

## CTDEEP Natural Diversity Data Base

CTDEEP's Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by CTDEEP staff, scientists, conservation groups, and landowners. In some cases an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowner's rights whenever species occur on private property.

The nearby Shepaug River is identified as a NDDB shaded area, although the proposed Facility location is located outside of the shaded area. A review request to the CTDEEP NDDB has been submitted by others with respect to this project. A response from CTDEEP has not been received as of the date of this report.

## USFWS Communications Towers Compliance

The U.S Fish and Wildlife Service ("USFWS") prepared its *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000), which recommends the 12 voluntary actions below be implemented in order to mitigate potential bird strikes that could result by the construction of telecommunications towers. APT offers the following responses to each of the USFWS recommendations.

1. *Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communications tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.*

   Collocation opportunities on existing towers, buildings or non-tower structures are not available in the area while achieving the required radio frequency ("RF") coverage objectives of wireless service providers.

2. *If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Administration regulations permit.*

   The proposed Facility would consist of a 140-foot free-standing structure which requires neither guy wires nor lighting.

3. *If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.*

   Multiple towers are not proposed as part of this project.

4. *If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, or other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.*

   There are no existing "antenna farms" in the area. The proposed Facility is not within wetlands, known bird concentration area, migratory or daily movement flyway. Although the proposed Facility is not located within a NDDB shaded area, indicating habitat of threatened/endangered species, a review request has been submitted by others due to proximity to shaded areas along the Shepaug River. A response from CTDEEP has not been received as of the date of this report. In Connecticut, seasonal atmospheric conditions can occasionally produce fog, mist and/or low ceilings. However, high incidences of these meteorological conditions, relative to the region, are not known to exist in the vicinity of the host Property.

5. *If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used.*

   The proposed Facility height (total height with antennas: 140 feet AGL) is less than 199 feet and would not require any aviation safety lighting.

6. *Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species.*

   The proposed Facility would be free-standing and would not require guy wires or visual marking.

7. *Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint." However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.*

   The proposed Facility is sited, designed, and would be constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible. The site is located proximate to and within existing development associated with the town garage and public works facilities and therefore will not result in habitat fragmentation.

8. *If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal; restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.*

   Significant numbers of breeding, feeding, or roosting birds are not known to habitually use the proposed tower construction areas at the host Property.

9. *In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.*

   The proposed Facility has been designed in accordance with this guidance, as it could accommodate a total of five antenna platform positions and the Town's emergency communications system antennas. The proposed, free-standing Facility would be neither lighted nor guyed.

10. *Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.*

    Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer.

11. *If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct, dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.*

    With prior notification to Homeland Towers, USFWS personnel would be allowed access to the proposed Facility to conduct evaluations.

12. *Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.*

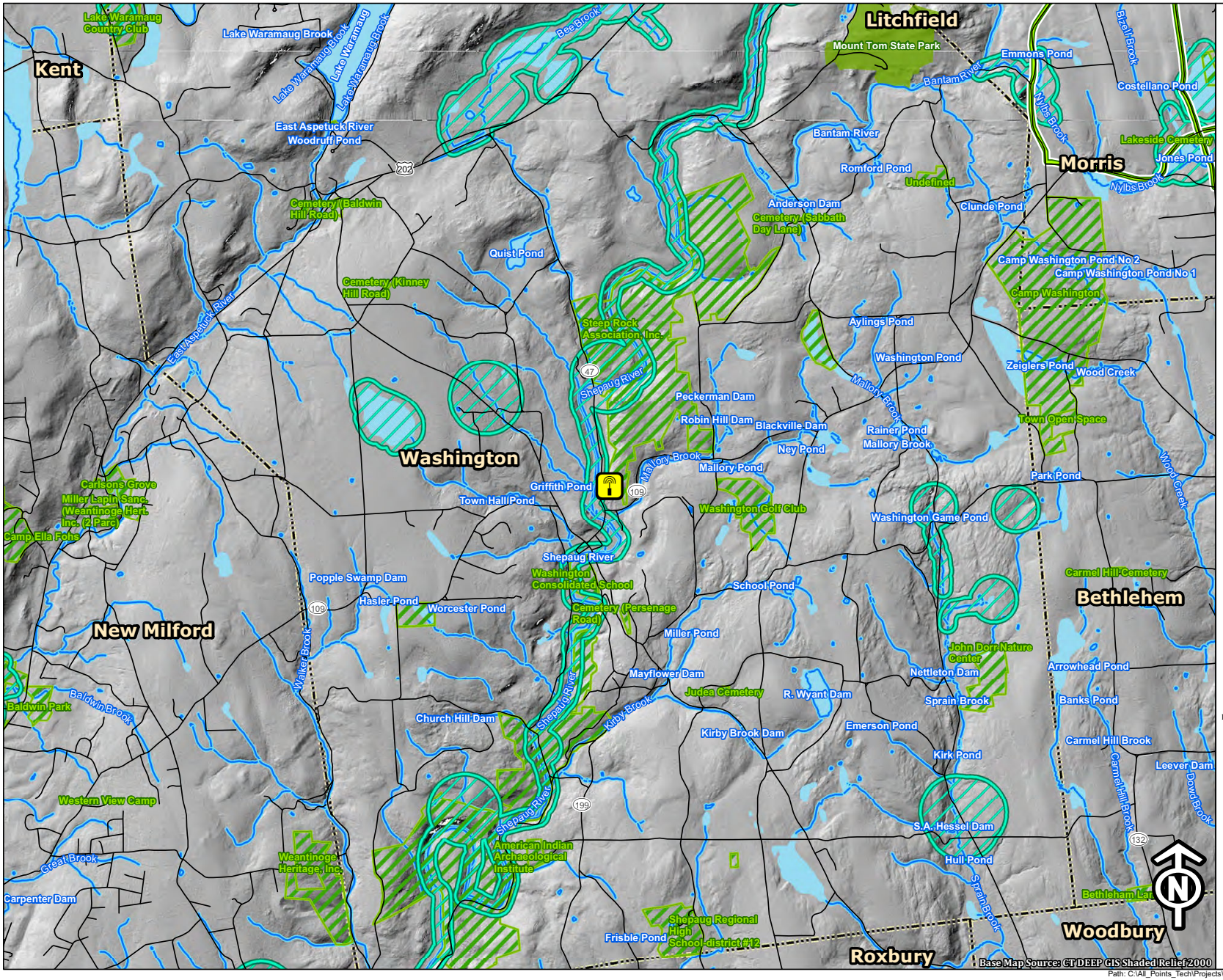
    If the proposed Facility was no longer in use or determined to be obsolete, it would be removed within 12 months of cessation of use.

## Summary and Conclusions

Based on the results of this desk-top evaluation, no migratory bird species are anticipated to be impacted by Homeland Towers' proposed development. The proposed Facility is not proximate to an Important Bird Area and would comply with the USFWS guidelines for minimizing the potential impacts to birds. Should CTDEEP identify a rare avian species associated with the nearby shaded NDDB area, an addendum to this report will be prepared to evaluate potential impacts resulting from development of the proposed Facility.

# Figures

- Avian Resources Map
- Connecticut Waterfowl Focus Areas Map




# Avian Resources Map

**Proposed Homeland Towers**
**Wireless Communications Facility**

**10 Blackville Road**
**Washington, Connecticut**

**Legend**

- Proposed Tower Location
- Hawk Watch Site*
- Bald Eagle Watch Site*
- Important Bird Site*
- Watercourse
- Waterbody
- Breeding Bird Survey Route
- Important Bird Area*
- Migratory Waterfowl (CT DEEP, 1999)*
- Natural Diversity Database Area (CT DEEP, 6/2013)
- Critical Habitat (CT DEEP, 07/2009)*
- Federal Property (CT DEEP, 2004)*
- Municipal and Private Open Space (CT DEEP, 1997)

**DEP Property (CT DEEP, 2010)**

- State Forest*
- State Park
- State Park Scenic Reserve
- State Park Trail*
- Natural Area Preserve*
- Wildlife Area*
- Wildlife Sanctuary*
- Historic Preserve*
- Flood Control*
- Fish Hatchery*
- DEP Owned Waterbody*
- Water Access*
- Other*
- Road
- Town Line

*None within mapped extents

Last Updated Friday, August 23, 2013

**Avian Source Information:**
**Bald Eagle Sites: Midwinter Bald Eagle Count Survey website**
**http://ocid.nacse.org/nbii/eagles/state.php?php_screen=first&stateIn=Connecticut**
**Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website:**
**http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut**
**Migratory Waterfowl: CTDEP GIS, 1999**
**Important Bird Sites/Areas: National Audubon Society, Audbon Connecticut**
**http://ct.audubon.org/BirdSci_IBAs.html**
**Breeding Bird Survey Routes: Patuxent Wildlife Research Center of the U.S. Geological Survey and the Canadian Wildlife Service's National Wildlife Research Centre**
**http://www.nationalatlas.gov/mld/bbsrtsl.html**

**1 inch equals 3,333 feet**

0 0.25 0.5 1 Miles

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HOMELAND TOWERS

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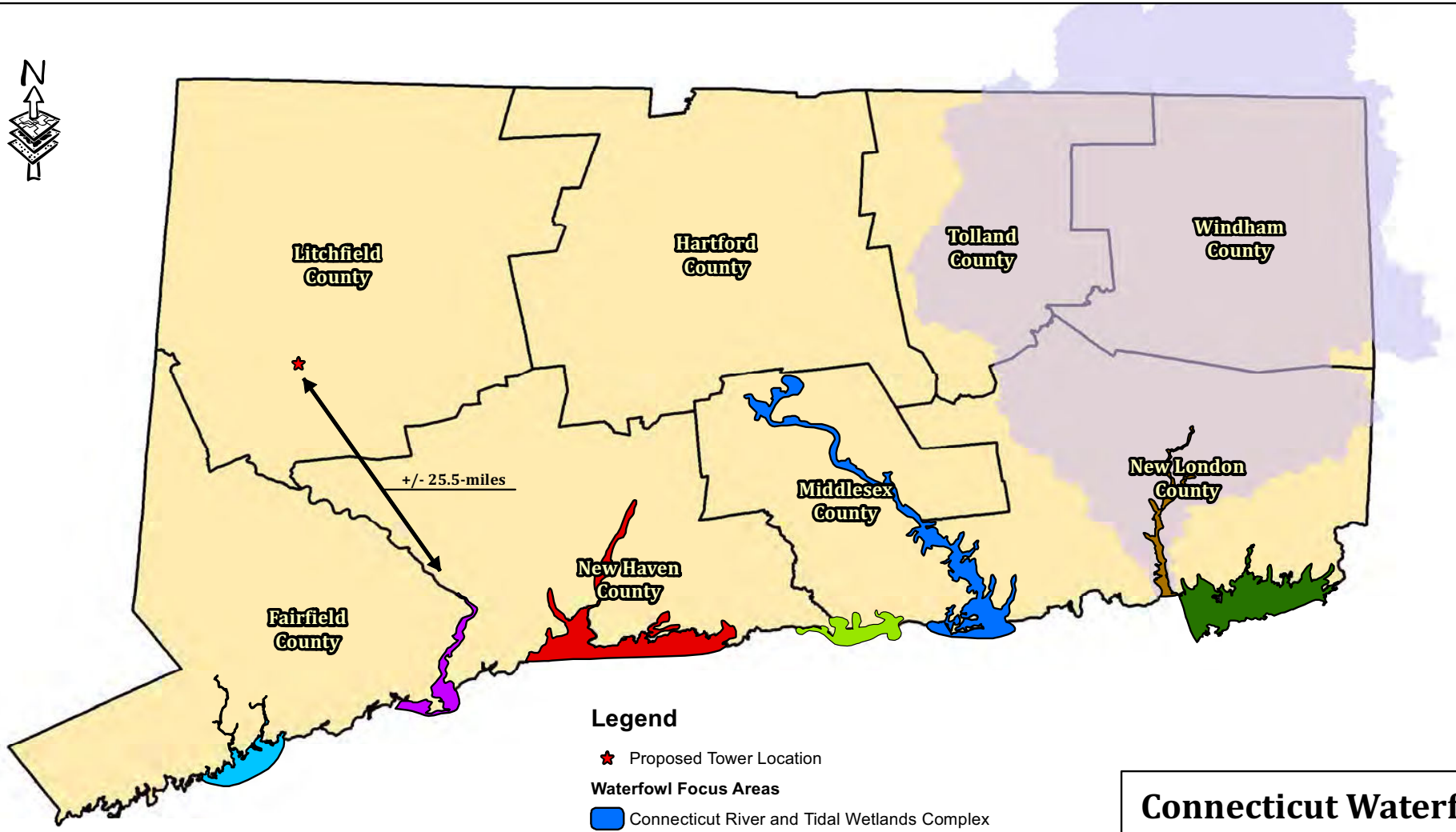


# Connecticut Waterfowl Focus Areas Map

**Proposed Homeland Towers**
**Wireless Telecommunications Tower**

**10 Blackville Road**
**Washington, Connecticut**

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**Waterforwl Focus Areas Developed by the Atlantic Coast Joint Venture Partnership**

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# WETLANDS DELINEATION REPORT

**July 1, 2013**

**Homeland Towers**
**46 Mill Plain Road**
**Danbury, CT 06810**

**APT Project No.: CT283160**

**Re: Proposed Homeland Towers Facility**
**Site CT112 - Washington**
**10 Blackville Road**
**Washington, Connecticut**

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by Homeland Towers at 10 Blackville Road in Washington, Connecticut ("Subject Property"). At your request, Matthew Gustafson, a Connecticut registered Soil Scientist with APT conducted an inspection of the Subject Property on May 22, 2013 to determine the presence or absence of wetlands and watercourses. Dean Gustafson, a Connecticut registered Professional Soil Scientist with APT reviewed this delineation on May 25, 2013. The delineation methodology followed was consistent with both the Connecticut Inland Wetlands and Watercourses Act (IWWA) and the *Corps of Engineers Wetland Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, Version 2.0 (January 2012). The results of this wetland investigation are provided below.

## Site and Project Description:

The Subject Property consists of an approximately 17 acre parcel developed with Town of Washington's Public Work facilities identified as 10 Blackville Road in Washington, Connecticut. The area proposed for the proposed Homeland Tower Facility is located within a mature hemlock dominant forest area adjacent to storage areas and debris piles associated with a steel garage building in the northwestern portion of the Subject Property. The north end of the Subject Property consists primarily of undeveloped forest, with the southern portions of the property hosting public works facilities. The surrounding land-use consists of residential development and large undeveloped forest tracts.

Two wetland areas were delineated in proximity to the proposed Facility consisting of a rip-rap armored drainage swale (Wetland 1: located ±540 feet south of the proposed Facility on the Subject Property) and a man-made pond feature (Wetland 2: located ± 390 feet north both on and off the Subject Property). Please refer to the enclosed Wetlands Delineation Map for approximate locations of the identified resource areas. Wetlands were marked with pink and blue plastic flagging tape numbered with the following sequence: WF 1-01 to 1-27 (loop) and WF 2-01 to 2-30 (loop). General weather conditions encountered during the above-referenced inspection include mid 60° F temperatures with generally overcast skies.

## Regulation of Wetlands:

Wetlands and watercourses are regulated by local, state and federal regulations, with each regulatory agency differing slightly in their definition and regulatory authority of resource areas, as further discussed below. The proposed Facility is under the exclusive jurisdiction of the State of Connecticut Siting Council and therefore exempt from local regulation, although local wetland regulations are considered by the Siting Council. Wetlands identified on the Site may be considered Waters of the United States and therefore any activity that would result in direct impact would be subject to jurisdiction by the U.S. Army Corps of Engineers ("ACOE") New England District.

**Town of Washington:** The Town of Washington regulates activities within wetlands and watercourses and within 100 feet of wetlands and watercourses through administration of the Connecticut Inland Wetlands and Watercourses Act (IWWA).

**State of Connecticut:** **Freshwater Wetlands:** The IWWA requires the regulation of activities affecting or having the potential to affect wetlands under Sec. 22a-36 through 22a-45 of the Connecticut General Statutes. The IWWA is administered through local municipalities. The IWWA defines wetlands as areas of poorly drained, very poorly drained, floodplain, and alluvial soils, as delineated by a soil scientist. Watercourses are defined as bogs, swamps, or marshes, as well as lakes, ponds, rivers, streams, etc., whether natural or man-made, permanent or intermittent. Intermittent watercourse determinations are based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus; (2) the presence of standing or flowing water for a duration longer than a particular storm incident; and (3) the presence of hydrophytic vegetation.

**ACOE:** The U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. Waters of the United States are navigable waters, tributaries to navigable waters, wetlands adjacent to those waters, and/or isolated wetlands that have a demonstrated interstate commerce connection. The ACOE Wetlands Delineation Manual defines wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been approved by the ACOE.

## Soil Description:

Soil types encountered throughout the Subject Property were generally consistent with digitally available soil survey information obtained from the Natural Resources Conservation Service ("NRCS")[1]. The exception is the lack of mapped wetland soils on the Site by NRCS, which was field identified as Aquents and Ridgebury fine sandy

[1] NRCS Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/, accessed on May 5, 2013.

loam. The non-wetland soils were examined along the wetland boundary and more distant upland areas during the delineation, including the proposed Facility location. They are dominated by Charlton-Chatfield complex and Canton and Charlton soils. Detailed descriptions of wetland and upland soil types are provided below.

**Wetland Soils:**

The **Aquents** map unit is a miscellaneous land type used to denote man-made or man-disturbed areas that are wet. These soils have an aquic soil moisture regime and can be expected to support hydrophytic vegetation. Typically, these soils occur in places where less than 2 feet of earthen material have been placed over poorly or very poorly drained soils; areas where the natural soils have been mixed so that the natural soil layers are not identifiable; or where the soil materials have been excavated to the water table.

The **Ridgebury** series consists of very deep, somewhat poorly and poorly drained soils formed in glacial till derived mainly from granite, gneiss and schist. They are nearly level to gently sloping soils in low areas in uplands. This series includes phases that are poorly drained and the wetter part of somewhat poorly drained. A perched, fluctuating water table above the dense till saturates the solum to or near the surface for 7 to 9 months of the year.

**Upland Soils:**

The **Canton** series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy glacial till. They are on nearly level to very steep glaciated plains, hills, and ridges. Slope ranges from 0 to 35 percent. Permeability is moderately rapid in the solum and rapid in the substratum. The soils developed in a fine sandy loam mantle over acid sandy glacial till of Wisconsin age derived mainly from granite and gneiss and some fine-grained sandstone.

The **Charlton** series is a very deep, well drained loamy soil formed in friable till. They are nearly level to very steep soils on till plains and hills. Depth to bedrock and the seasonal high water table is commonly more than 6 feet.

The **Chatfield** series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline bedrock is at depths of 20 to 40 inches. The soils formed in a moderately thick mantle of glacial till overlying granite, gneiss, or schist bedrock. Rock outcrops are rare to common and are limited to the more resistant bedrock.

## Wetlands Discussion:

### Wetland 1 Classification Summary:

| **Wetland 1**[2] (WF 1-01 – 1-27) | **System** Palustrine | **Subsystem** | **Class** Scrub-Shrub | **Subclass** Broad-leaved Deciduous | **Water Regime** Saturated | **Special Modifier** Artifical |
|---|---|---|---|---|---|---|
| **Watercourse Type** (none) | Perennial ☐ | Intermittent ☐ | Tidal ☐ | **Special Aquatic Habitat** (none) | Vernal Pool ☐ | Other ☐ |

[2] Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm - contents.

**Wetland 1 Description:**

Wetland 1 is a constructed rip-rap armored drainage swale located south of the existing gravel access road serving the northern garage facility. This wetland feature starts at a hillside seep outbreak adjacent to a retaining wall and paved/curbed shelf to the east. Willow shrubs (*Salix spp.*) have colonized the edges of the drainage swale. This swale collects both stormwater generated by the access road as well as intercepts drainage from the slopes to the north before reaching the southern garage facilities. It was noted during the inspection that fine sediments have accumulated within the drainage swale forming thin wetland soil profiles in some locations. Wetland 1 eventually drains into a catch basin that conveys the water under the access road and public works facilities off-site.

**Wetland 1 Dominant Vegetation:**

| **Dominant Wetland Species** Common Name (*Latin Name*) | **Dominant Adjacent Upland Species** Common Name (*Latin Name*) |
|---|---|
| Soft Rush (*Juncus effuses*) | Raspberry/Blackberry (*Rubus* sp.) |
| Sensitive Fern (*Onoclea sensibilis*) | Japanese Knotweed* (*Polygonum cuspidatum*) |
| Japanese Knotweed* (*Polygonum cuspidatum*) | Multiflora Rose* (*Rosa multiflora*) |
| Multiflora Rose* (*Rosa multiflora*) | Mugwort (A*rtemisia vulgaris*) |
| Pussywillow (*Salix discolor*) | Goldenrod (*Solidago* spp.) |
| Bebb Willow (*Salix bebbiana*) | Trembling Aspen (*Populus trembloides*) |

* denotes Connecticut Invasive Plants Council invasive species

**Wetland 2 Classification Summary:**

| **Wetland 2** (WF 2-01 – 2-30) | **System** Palustrine | **Subsystem** | **Class** Emergent | **Subclass** Nonpersistent | **Water Regime** Saturated | **Special Modifier** Partly Drained |
|---|---|---|---|---|---|---|
| **Watercourse Type** (none) | Perennial ☐ | Intermittent ☐ | Tidal ☐ | **Special Aquatic Habitat** (supports vernal pool breeding habitat) | Vernal Pool ☒ | Other ☐ |

**Wetland 2 Description:**

Wetland 2 is a man-made pond feature formed in dense glacial till located primarily off the Subject Property to the northeast within a forested area. Evidence of cast spoils was noted on the banks to this delineated feature, indicative of the man-made origin of the pond. The vegetation along the banks to this pond feature appears to be maintained. A dug drainage ditch provides a forested overflow outlet to the southwest. A large population of eastern newt (*Notophthalmus viridescens*) was observed within the pool along with numerous spotted salamander (*Ambystoma maculatum*) egg masses. Other herpetological species were observed utilizing the pool including spotted and painted turtles, green frogs, and bull frogs. It is likely the survivorship of spotted salamander larvae in this pool is very low due to the high density of predatory species utilizing the pool. However, this pool does provide a locally significant permanent body of water for reptile and amphibian populations and therefore identified as vernal pool habitat, albeit with likely limited survivorship.

**Wetland 2 Dominant Vegetation:**

| **Dominant Wetland Species**<br>Common Name (*Latin Name*) | **Dominant Adjacent Upland Species**<br>Common Name (*Latin Name*) |
|---|---|
| Pickerelweed (*Pontedaria cordata*) | Hayscented Fern (*Dennstaedtia punctilobula*) |
| Marsh Mermaid-weed (*Proserpinaca palustris*) | Eastern Hemlock (*Tsuga canadensis*) |
| Sensitive Fern (*Onoclea sensibilis*) | American Beech (*Fagus grandifolia*) |
| Cinnamon Fern (*Osmunda cinnamomea*) | Poison Ivy (*Toxicodendron radicans*) |
| Interrupted Fern (*Osmunda clytoniana*) | |
| Royal Fern (*Osmunda regalis*) | |
| Skunk Cabbage (*Symplocarpus foetidus*) | |

* denotes Connecticut Invasive Plants Council invasive species

**Summary:**

No likely adverse impact to wetlands is associated with the proposed Homeland Tower development due to the approximate 390 foot separating distance from the proposed Facility to the nearest wetlands. No temporary impacts to wetlands associated with the proposed construction activities are anticipated provided sedimentation and erosion controls are designed, installed and maintained during construction in accordance with the *2002 Connecticut Guidelines For Soil Erosion and Sediment Control*.

If you have any questions regarding the above-referenced information, please feel free to contact Matthew Gustafson at (860) 617-0613 or mgustafson@allpointstech.com or Dean Gustafson at (860) 984-9515 or dgustafson@allpointstech.com.

Sincerely,

All-Points Technology Corporation, P.C.

Delineation Performed by:

Matthew Gustafson

Registered Soil Scientist

Delineation Reviewed by:

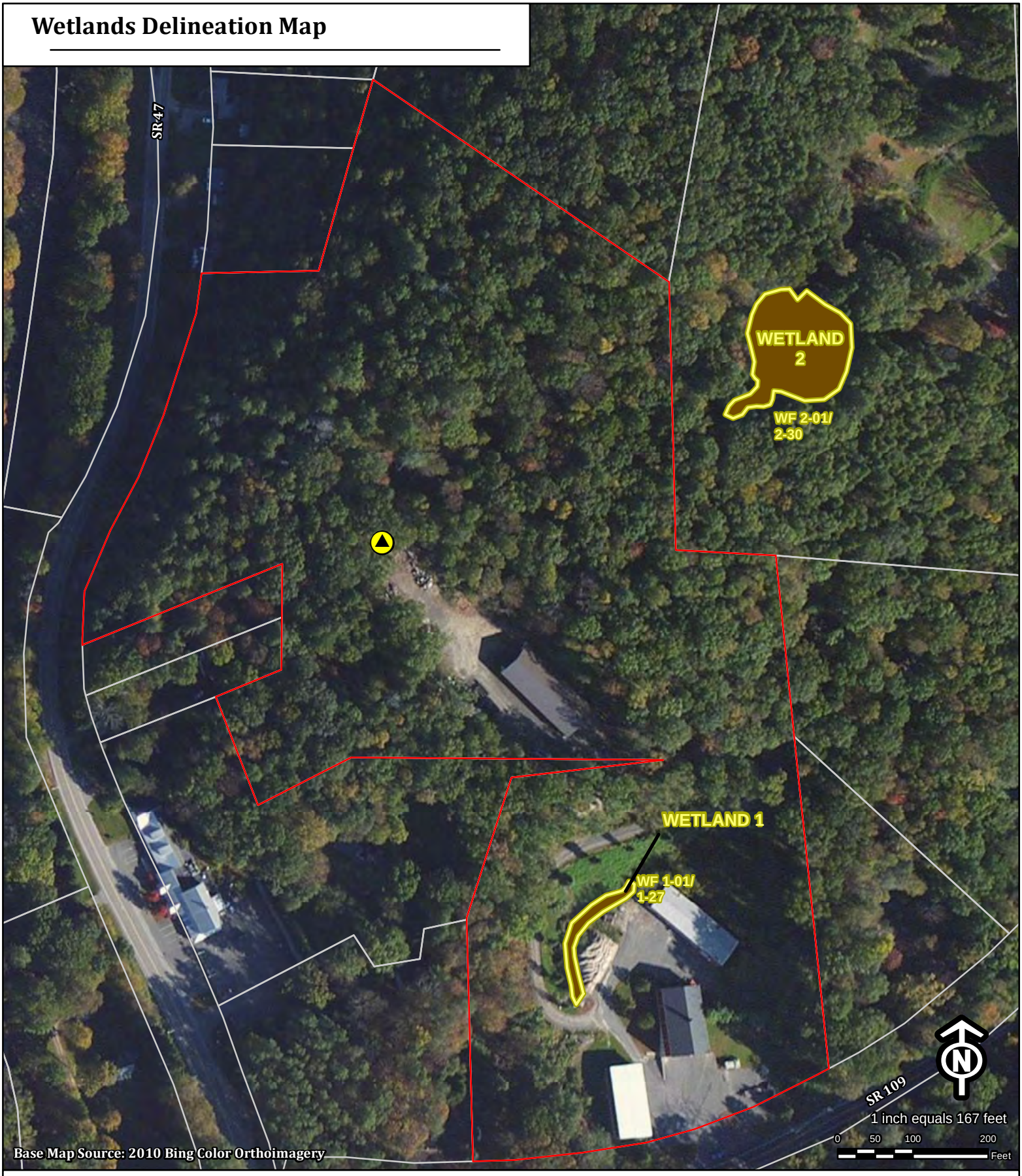
Dean Gustafson

Professional Soil Scientist

Enclosure

# Wetlands Delineation Map

# Wetlands Delineation Map




## Proposed Homeland Telecommunications Facility
## 10 Blackville Road
## Washington, Connecticut

**Sunday, June 30, 2013**

**Legend**

- Proposed Tower Location
- Subject Parcel
- CT Parcel
- APT Delineated Wetland Boundary

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

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