

# ATTACHMENT 6



## **WETLAND INVESTIGATION**

**July 3, 2014**

**HPC Wireless Services, LLC  
22 Shelter Rock Lane  
Building C  
Danbury, CT 06810**

**APT Project No.: CT255ATC112**

**Re: Proposed Manchester Risley Facility  
701 Lydall Street  
Manchester, Connecticut**

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by American Tower Corp. ("ATC") at 701 Lydall Street in Manchester, Connecticut ("Subject Property"). At the request of HPC Wireless Services, LLC, acting as agent for ATC, Matthew Gustafson, a Connecticut registered Soil Scientist with APT conducted an inspection of the Subject Property on April 1, 2014 to determine the presence or absence of wetlands and watercourses within approximately 200 feet of proposed development activities ("Study Area"). 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 64-acre parcel partially cleared for agriculture. The area proposed for the wireless communications Facility is located in the northwest corner of a mowed grass area adjacent to a mature upland forest. Access to the Facility would initially follow an existing dirt road originating off Lydall Street, through a maintained hay field (adjacent to the woods line) and continue over a new, 12-foot wide, gravel based drive. Utilities would extend underground along the access drive for a total length of approximately 1,600 feet. The Study Area is dominated by maintained agricultural hay fields, complexes of upland and wetland forested blocks, and a small quarry operation. The surrounding land-use consists primarily of residential development.

One wetland area was delineated within the Study Area consisting of a broad forested hummock/hollow swamp that transitions to an artificially created open water pond. From there, the wetland system outlets to a well confined intermittent stream system before flowing under Lydall Street. Please refer to the enclosed Wetland Delineation Map for the approximate location of the identified wetland resource area. Wetlands were marked with pink and blue plastic flagging tape numbered with the following sequence: WF 1-01 to 1- 30 and WF 1-100 to 1- 111. General weather conditions encountered during the above-referenced inspection included low 50° F temperatures with sunny skies.

### **ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE · KILLINGWORTH, CT 06419 · PHONE 860-663-1697 · FAX 860-663-0935

P.O. BOX 504 · 116 GRANDVIEW ROAD · CONWAY, NH 03818 · PHONE 603-496-5853 · FAX 603-447-2124

## **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 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. If wetlands are identified on the Subject Property and direct impact is proposed, those wetlands may be considered Waters of the United States and therefore the activity may also be subject to jurisdiction by the U.S. Army Corps of Engineers (“ACOE”) New England District.

**Town of Manchester:** The Town of Manchester 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 Study Area were generally consistent with digitally available soil survey information obtained from the Natural Resources Conservation Service (“NRCS”)<sup>1</sup>. Wetland soils were field identified to consist of Scarboro muck and Raypol silt 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 Hartford sandy loam and Manchester gravelly sandy loam. Please note that due to the historic and current agricultural use of the Subject Property, many of the soil profiles exhibited alteration and artificial drainage of areas was also observed. Detailed descriptions of wetland and upland soil types are provided below.

### **Wetland Soils:**

The **Raypol** series consists of very deep, poorly drained soils formed in loamy over sandy and gravelly glacial outwash. They are nearly level to gently sloping soils in shallow drainage ways and low-lying positions on terraces and plains. The soils have a water table at or near the surface much of the year.

The **Scarboro** series consists of very deep, very poorly drained soils on outwash plains, deltas, and terraces. They are nearly level soils in depressions. The water table is at or near the surface for 6 to 12 months of the year, and many areas are ponded for short periods. This is a mineral soil, but it has a mucky surface horizon.

### **Upland Soils:**

The **Hartford** series consists of very deep, somewhat excessively drained soils formed in sandy glacial outwash. They are nearly level to strongly sloping soils on plains and terraces. Slope ranges from 0 to 15 percent. Permeability is moderately rapid in the surface layer and subsoil, and rapid or very rapid in the substratum.

The **Manchester** series consists of very deep, excessively drained soils formed in sandy and gravelly outwash and stratified drift. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Slope ranges from 0 to 45 percent. Permeability is rapid in the surface layer, rapid or very rapid in the subsoil, and very rapid in the substratum.

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<sup>1</sup> NRCS Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/>, accessed on April 2, 2014.

**Wetlands Discussion:**

**Wetland 1 Classification Summary:**

Wetland 1 <sup>2</sup> (WF 1-01 to 1-30 and WF 1-100 to 1- 111)	System Palustrine	Subsystem	Class Forested	Subclass Broad-leaved Deciduous	Water Regime Seasonally Flooded	Special Modifier Farmed
<b>Watercourse Type</b>	Perennial <input type="checkbox"/>	Intermittent <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>	<b>Special Aquatic Habitat</b> (Cryptic Type)	Vernal Pool <input checked="" type="checkbox"/>	Other <input type="checkbox"/>

**Wetland 1 Description:**

Wetland 1 is a complex of various habitat types ranging from forested, hummock/hollow wetland areas to emergent wet meadow areas. Wetland areas to the north are a complex of a large mature core forested block with hummock/hollow topography that supports cryptic vernal pool breeding habitat with the western edge cleared and maintained as hay fields. As this system drains to the south it transitions to an artificially dug open water pond within a maintained clearing. Wetland 1 drains out of this ponded area via a well incised intermittent stream. This intermittent watercourse eventually drains under Lydell Street via a 40 inch reinforced concrete pipe culvert. Northern portions of this stream system are within existing and maintained cleared areas. As the stream drains to the south it meanders through some forested areas. During the inspection, both spotted salamander and wood frog egg masses were discovered within interior portions to Wetland 1 in depressional pools. Adult wood frogs (2 individuals) were also observed during the inspection along with copious amounts of wood frog chorusing heard further supporting that hummock/hollow areas interior to the northern forested portions of Wetland 1 support vernal pool breeding habitat.

**Wetland 1 Dominant Vegetation:**

Dominant Wetland Species Common Name (Latin Name)	Dominant Adjacent Upland Species Common Name (Latin Name)
Red Maple ( <i>Acer rubrum</i> )	Shagbark Hickory ( <i>Carya ovata</i> )
Reed Canarygrass* ( <i>Phalaris arundinacea</i> )	Northern Red Oak ( <i>Quercus rubra</i> )
Highbush Blueberry ( <i>Vaccinium corymbosum</i> )	Eastern Red Cedar ( <i>Juniperus virginiana</i> )
Sweet Pepperbush ( <i>Clethra alnifolia</i> )	
Winterberry ( <i>Ilex verticillata</i> )	
Sensitive Fern ( <i>Onoclea sensibilis</i> )	
Multiflora Rose* ( <i>Rosa multiflora</i> )	

\* denotes Connecticut Invasive Plants Council invasive species

**Summary:**

Based on APT's understanding of the proposed ATC Facility development, and a review of the most recent Site Plan (Sheet No. A-1, revision date 05/13/14, prepared by APT), no direct impact to wetlands or watercourses is associated with the proposed tower/compound or gravel access. The Facility compound would be located 350± feet west of Wetland 1. The nearest edge of the existing access road to Wetland 1 is 17± feet west of flag WF 1-11 and WF 1-17. Although the existing and proposed access route is in close proximity to portions of Wetland 1, underground utilities will be positioned to avoid direct wetland impacts. Alternate routes for underground utilities through the Subject Property would result in greater impact to the generally intact mature upland forested habitat.

<sup>2</sup> 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>.

If wetlands impacts should occur during trenching activities for the underground utility route, they would be considered temporary and not expected to result in a likely adverse impact to wetlands due to the existing disturbed and developed nature of this wetland area (e.g., immediately adjacent to the dirt road and located within an existing cleared area).

Temporary and permanent impacts associated with the proposed gravel access occur in close proximity to interior vernal pool habitat associated with Wetland 1 (approximately 60 feet at the closest point to wetland flag WF 1-10). A Vernal Pool Evaluation will be provided under separate cover to assess vernal pool habitat, possible impacts to vernal pool conservation zones by the proposed development and protection strategies to avoid/minimize impact to vernal pool herpetofauna.

Minor temporary impacts may be associated with ATC's construction activities due to the close proximity to wetlands and the proposed underground utility route. Provided sedimentation and erosion controls are designed, installed and maintained during construction activities in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, potential minor and temporary impacts can be minimized or avoided. Long term secondary impacts to wetland resources possibly associated with the operation of this Facility are minimized by the fact the development is unmanned, it minimizes the creation of impervious surfaces with the use of a gravel base for the access drive and compound, it creates minimal traffic and the wetland system currently experiences a high level of human and agricultural activity. APT recommends that stormwater generated by the proposed development be properly handled and treated in accordance with the *2004 Connecticut Stormwater Quality Manual*, with an emphasis on utilizing Green Infrastructure/Low Impact Development techniques<sup>3</sup>, where appropriate and deemed necessary through engineering analysis. APT understands that details of the erosion control and stormwater management plans would be developed during the Council's Development and Management ("D&M") Plan, should the Facility be approved by the Council. Provided these recommendations are implemented, it is APT's opinion that the proposed ATC development would not result in a likely adverse impact to wetland resources.

If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 663-1697 ext. 202 or via email at [mgustafson@allpointstech.com](mailto:mgustafson@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

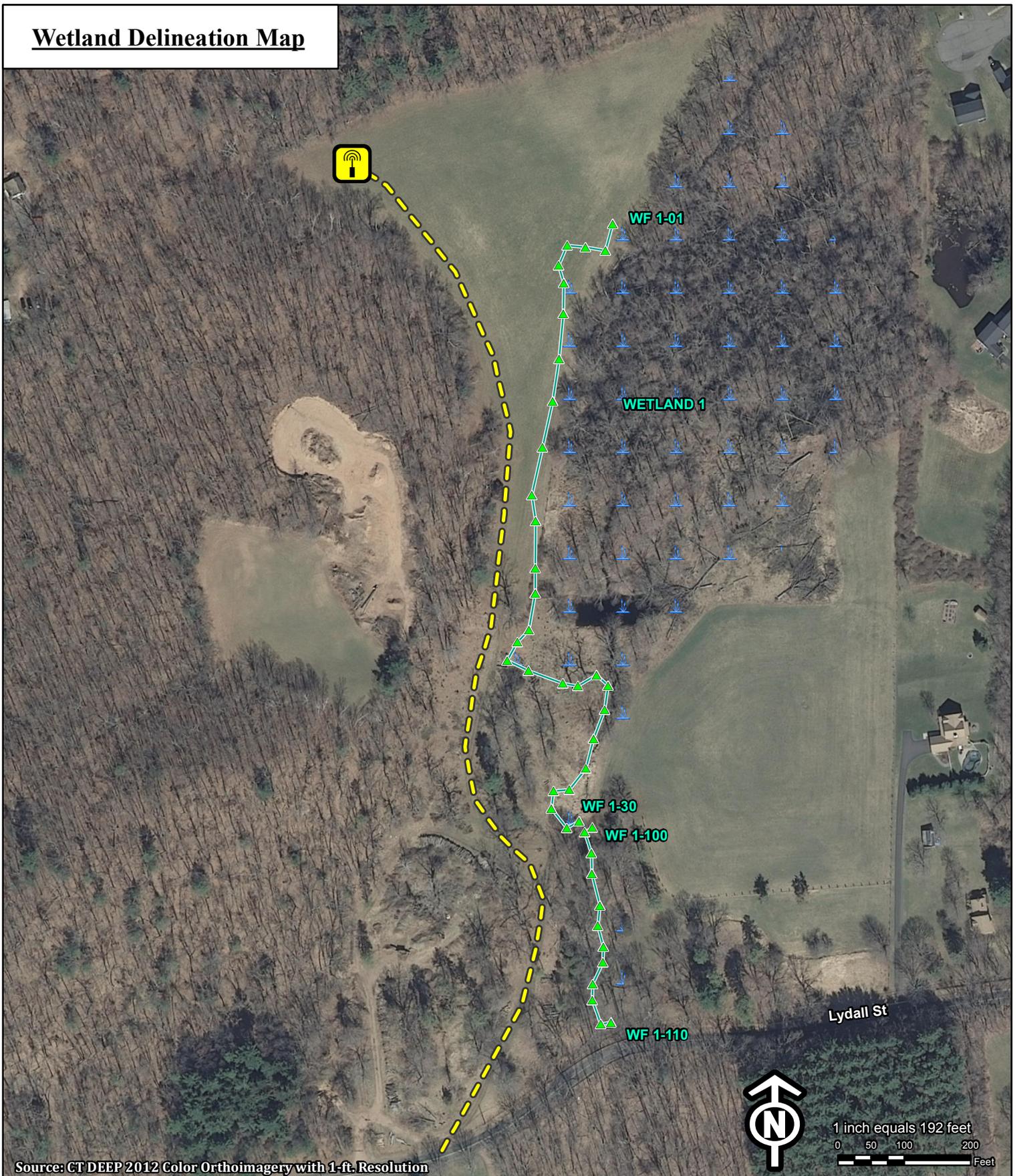
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<sup>3</sup> Connecticut Department of Energy & Environmental Protection. *Low Impact Development Appendix to the Connecticut Stormwater Quality Manual*. June 2011.

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# Wetland Delineation Map

# Wetland Delineation Map



Source: CT DEEP 2012 Color Orthoimagery with 1-ft. Resolution

## Legend

-  Proposed Tower Location
-  Wetland Flag
-  Proposed Access Route
-  Delineated Wetland Boundary
-  Approximate Wetland Area

**Proposed ATC Facility  
701 Lydall Street  
Manchester, Connecticut**

**Monday, June 02, 2014**

