



## **WETLAND INVESTIGATION**

**February 11, 2014**

**Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108**

**APT Project No.: CT1411620**

**Attn: Alexandria Carter**

**Re: Proposed Trumbull SE 4 Facility  
60 Commerce Drive  
Trumbull, Connecticut**

Dear Ms. Carter,

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by Verizon Wireless at 60 Commerce Drive in Trumbull, Connecticut ("Subject Property"). At your request, Matthew Gustafson, a Connecticut registered Soil Scientist with APT conducted inspections of the Subject Property on September 6, 2013 and January 30, 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 14 acre parcel primarily developed with a large abandoned industrial and office building formerly occupied by Pilot Corp of America identified as 60 Commerce Drive in Trumbull, Connecticut. The area proposed for the wireless communications facility is located directly adjacent to the existing building within a maintained lawn area along the northern building edge south of a narrow mesic (upland) forested block. Access to the Facility is proposed to be gained off Commerce Drive and follow an existing paved access road through the rear parking lot. The Study Area is dominated by commercial and industrial development with a small block of upland forest to the north and a stream (possible perennial) system located west and northwest of the proposed tower location that is piped underneath the existing development. The surrounding land-use consists of residential development to the north and east, commercial/industrial development to the south and CT State Route 8 to the west.

Two wetland areas were delineated within the Study Area consisting of a stream system located adjacent to the paved parking areas where the stream system enters a culvert that conveys flows under the existing development. This stream system then outlets into an aerated detention pond that receives stormwater discharges from various impervious surfaces from the existing development. A paved drive provides access to the rear parking lot, bisecting the detention pond feature from a perennial stream system to the south. A second wetland area was delineated south of the detention pond consisting of a small depressional wetland area. Please refer to the enclosed Wetland Delineation Map for approximate location of the identified wetland resource area. Wetlands were marked with pink and blue plastic flagging tape numbered with the following sequence: WF 1A-01 to 1A-09, WF 1B-01 to 1B-

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

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15, WF 1B-50 to 1B-54, WF 2-01 to 2-05. General weather conditions encountered during the above-referenced inspection on September 6, 2013 included low 70° F temperatures with sunny skies and on January 30, 2014 consisted of mid 20° F temperatures with sunny skies with frost conditions of 0 to 6 inches and 2 to 4 inches of snow cover.

### **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. 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 Trumbull:** The Town of Trumbull 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”)<sup>1</sup>. The exception is the lack of mapped wetland soils within the Study Area by NRCS, which was field identified as Raypol silt loam soils. 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 Canton Charlton soils and Udorthents-Urban Land complex. 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 drainageways and low-lying positions on terraces and plains. The soils have a water table at or near the surface much 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.

**Udorthents** is a miscellaneous land type used to denote moderately well to excessively drained earthen material which has been so disturbed by cutting, filling, or grading that the original soil profile can no longer be discerned.

**Urban land** is a miscellaneous land type consisting mostly of buildings, paved roads and parking lots. Typically included with this unit are small, intermingled areas disturbed by cutting, filling, or grading such that the original soil profile can no longer be discerned.

**Wetlands Discussion:**

**Wetland 1 Classification Summary:**

<b>Wetland 1<sup>2</sup></b> (WF 1A-01 to 1A-09, 1B-50 to 1B-54)	<b>System</b> Palustrine	<b>Subsystem</b>	<b>Class</b> Forested	<b>Subclass</b> Broad-leaved Deciduous	<b>Water Regime</b> Seasonally Flooded	<b>Special Modifier</b> Artificial
(WF 1B-01 to 1B-15)	Palustrine		Unconsolidated Bottom	Sand	Permanently Flooded	Artificial
<b>Watercourse Type</b> (unnamed)	Perennial <input checked="" type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>	<b>Special Aquatic Habitat</b> (none)	Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>

<sup>1</sup> NRCS Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/>, accessed on September 5, 2013.

<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> - content.

**Wetland 1 Description:**

Wetland 1 is an unnamed narrow stream (possible perennial) system with narrow bordering vegetated areas. This wetland system enters the Subject Property from the northwest corner and generally flows from the northwest to the southeast. As Wetland 1 flows towards the existing paved and developed areas near the Subject Property's loading dock area it enters a 48-inch corrugated metal pipe with a concrete headwall and rip-rap armored side-slopes. A number of plunge pools along with man-made spillway/weir structures are located within the streambed before it enters the culvert. This stream system daylight southeast of the existing building where it outlets into a detention pond. Side slopes along the detention pond are stabilized with various ornamental plantings and areas of rip-rap armoring. Two aerators are also located within the detention pond. The detention pond also receives stormwater from various impervious surfaces from the existing development through at least five culvert outlets located around the pond. This detention pond outlets via twin 24-inch reinforced concrete pipes to the south/southeast under an existing paved drive that provides access to the rear parking lot. This culvert outlets into a forested stream corridor located south of the paved access.

**Wetland 1 Dominant Vegetation:**

Dominant Wetland Species Common Name (Latin Name)	Dominant Adjacent Upland Species Common Name (Latin Name)
Purple Loosestrife* (Lythrum salicaria)	Maintained grass/lawn
Japanese Knotweed* (Polygonum cuspidatum)	Autumn Olive* (Elaeagnus umbellata)
Asiatic Bittersweet* (Celastrus orbiculatus)	Northern Red Oak (Quercus rubra)
Tulip Poplar (Liriodendron tulipifera)	Shagbark Hickory (Carya ovata)
Highbush Blueberry (Vaccinium corymbosum)	White Oak (Quercus alba)
Silky Dogwood (Cornus amomum)	Asiatic Bittersweet* (Celastrus orbiculatus)
Red Maple (Acer rubrum)	various landscape cultivars
Sweet Pepperbush (Clethra alnifolia)	

\* denotes Connecticut Invasive Plants Council invasive species

**Wetland 2 Classification Summary:**

Wetland 2 (WF 2-01 to 2-05)	System Palustrine	Subsystem	Class Forested	Subclass Broad-leaved Deciduous	Water Regime Temporarily Flooded	Special Modifier Artificial
<b>Watercourse Type</b> (none)	Perennial <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>	<b>Special Aquatic Habitat</b> (none)	Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>

**Wetland 2 Description:**

Wetland 2 is a small perched wetland system formed in disturbed soils likely as a result of historic disturbance associated with the original development of the Subject Property. The northern delineated boundary follows along an existing chain-link fence and steep fill slop associated with the existing paved access drive. Wetland 2 is vegetated with mature hardwood trees with a sparse understory.

**Wetland 2 Dominant Vegetation:**

<b>Dominant Wetland Species</b> Common Name (Latin Name)	<b>Dominant Adjacent Upland Species</b> Common Name (Latin Name)
Highbush Blueberry ( <i>Vaccinium corymbosum</i> )	Maintained grass/lawn
Red Maple ( <i>Acer rubrum</i> )	Northern Red Oak ( <i>Quercus rubra</i> )
Asiatic Bittersweet* ( <i>Celastrus orbiculatus</i> )	Shagbark Hickory ( <i>Carya ovata</i> )
White Oak ( <i>Quercus alba</i> )	White Oak ( <i>Quercus alba</i> )
	Asiatic Bittersweet* ( <i>Celastrus orbiculatus</i> )

\* denotes Connecticut Invasive Plants Council invasive species

**Summary:**

Based on APT's understanding of the proposed Verizon Wireless development, no temporary or permanent direct impact to wetlands, the identified watercourse or detention pond will result from the proposed activity. Access to the proposed Facility will use the existing paved access drive and rear parking lot. The proposed Facility will be located approximately 180 feet from the nearest wetland/watercourse (west end of retaining wall to wetland flag WF 1A-04; the west side of the compound is 190 feet away). The proposed underground utility easement through the paved loading dock area is approximately 30 feet southeast of wetland flag WF 1A-04. No temporary impacts associated with Verizon Wireless' construction activities are anticipated to nearby wetland and watercourse resources 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*. Long term secondary impacts to wetland and watercourse resources possibly associated with the operation of this Facility are minimized by the fact the ecological integrity of the wetland and watercourse resources have already been diminished due to existing development and culverting activities and high level of human activity, the proposed Verizon Wireless development is unmanned and creates minimal traffic, and the gravel surfaced compound promotes infiltration. Therefore, it is APT's opinion that the proposed Verizon Wireless development will not result in a likely adverse impact to wetland or watercourse resources.

If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 617-0613 or via email at [mgustafson@allpointstech.com](mailto:mgustafson@allpointstech.com).

Sincerely,

All-Points Technology Corporation, P.C.



Matthew Gustafson

Registered Soil Scientist

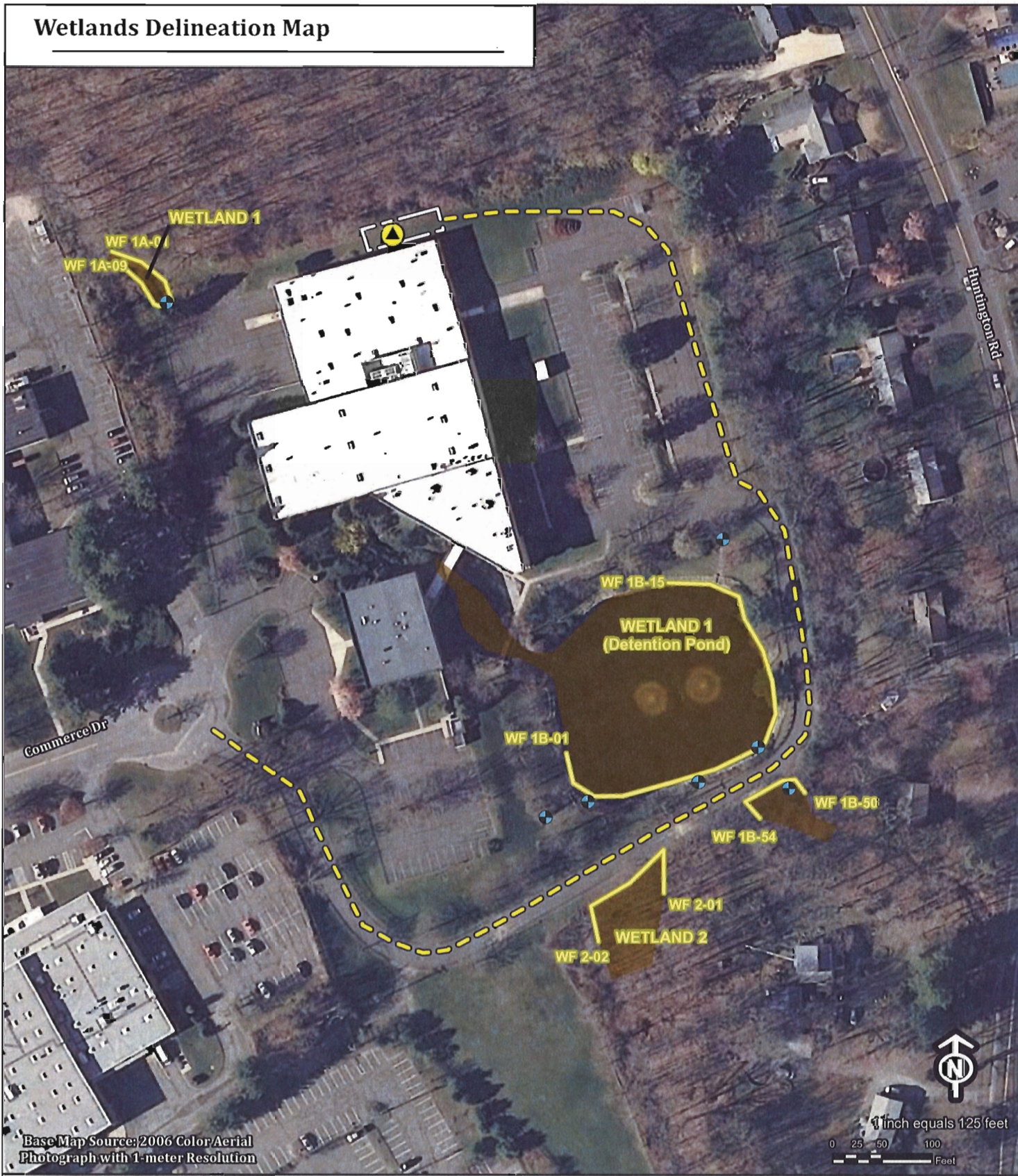
Enclosure

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# Wetland Delineation Map









# Wetlands Delineation Map



Base Map Source: 2006 Color Aerial Photograph with 1-meter Resolution

## Legend

-  Proposed Tower Location
-  Culvert
-  Proposed Access Route
-  Proposed 24' x 77' +/- Gravel/Fenced Compound Area
-  APT Delineated Wetland Boundary
-  Approximate Wetland Area

**Proposed Verizon Telecommunications Tower**  
**60 Commerce Drive**  
**Trumbull, Connecticut**

**Friday, February 07, 2014**



